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**Methodology for Evaluating
Transfer of Learning from the U.S. Army's
Advanced Leaders Course**

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June 2009

ARI-Fort Benning Research Unit

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METHODOLOGY FOR EVALUATING TRANSFER OF LEARNING FROM THE U.S. ARMY'S ADVANCED LEADERS COURSE

EXECUTIVE SUMMARY

Research Requirement:

As part of its institutional transformation, the U.S. Army Infantry School has revised the program of instruction (POI) for the resident Infantry Advanced Leaders Course (ALC). As the new POI enters implementation, empirical feedback is needed to ensure program goals are being met, with a focus on operational unit impact. The feedback can be used to refine the course POI and enhance the program's contributions to unit readiness. Under the sponsorship of the Infantry School, the U.S. Army Research Institute (ARI) initiated a program to evaluate the transfer of Infantry ALC training to job performance and unit operations. The current research aimed to establish the planning foundation for the evaluation.

Procedure:

The researchers used an iterative develop-review-revise process to create a family of planning documents within a program evaluation framework. They began by developing metrics of Infantry ALC impact, then crafted an evaluation plan, and finally constructed tools and guidelines for collecting data. Interviews of ALC program players yielded well-grounded input to the metrics. The team used the metrics to shape the evaluation objectives and to design the data collection instruments. Robust internal reviews drove iterative revision efforts.

Findings:

The planning documents include an Evaluation Design Plan, a Data Collection and Management Plan, measures of ALC impact, the architecture for a coherent set of data collection instruments, and a Data Collector's Guide. As a result of the iterative develop-review-revise process, the products provide defensible evaluation enablers that reflect realistic planning parameters and constraints. The presentation summarizes design options considered and rejected, and delineates the assumptions behind the data collection strategy. The intermediate products generated during development of the impact measures offer diverse perspectives on the challenges of measuring transfer of training in an operational unit context. The primary products are included in appendixes.

Utilization and Dissemination of Findings:

The products of this research provide the enablers for a comprehensive evaluation of Infantry ALC's operational impact. As the follow-on team prepares for data collection, they must update and finalize the products, complete the development of data collection instruments, and conduct a thorough pilot test. The eventual results of the evaluation will help decision makers, course managers, and curriculum developers to refocus training so as to enhance the

transfer of ALC-acquired knowledge and skills. In addition, the impact metrics may prove useful in career fields beyond Infantry.

METHODOLOGY FOR EVALUATING TRANSFER OF LEARNING FROM THE U.S. ARMY’S ADVANCED LEADERS COURSE

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Methodology for Evaluating Transfer of Learning from the U.S. Army's Advance Leaders Course

Introduction

The U.S. Army is currently in the process of transforming its Noncommissioned Officer Education System (NCOES) to meet the needs of the operational Army and ensure relevance to present and future operations. A number of factors driven by the contemporary operational environment (COE) have shaped the direction of the transformation, such as a more complex array of threats, new requirements for proficiency on unfamiliar tasks, and persistently high operational tempo (OPTEMPO). As part of the NCOES transformation, the U.S. Army Infantry School has revised its program of instruction (POI) for the resident Infantry Advanced Leaders Course (ALC), with emphasis on the resident Phase II POI. As the new POI is finalized and implemented, empirical feedback is needed to ensure program goals are being met. The feedback should focus on noncommissioned officer (NCO) competence/performance and unit readiness in the context of the COE. The feedback can then be used to refine the ALC POI and enhance the program's contributions to unit readiness. Under the sponsorship of the Infantry School, the U.S. Army Research Institute (ARI) initiated a program to examine the operational impact of Infantry ALC training. The current research was conducted by ARI's Fort Benning Research Unit to create the methodological foundation for evaluating the impact of the resident Infantry ALC Phase II POI on Soldier performance and readiness in operational units.

This publication presents the planning and preparation products developed to support a comprehensive evaluation of Infantry ALC's impact on operational parameters. The main body details the methods used, then describes and characterizes the products. The primary products themselves are provided in appendixes. The information and products are of use to the research team that will conduct the evaluation as well as investigators working to evaluate other instructional programs.

Background

In support of its modular force initiatives, the U.S. Army is transforming the NCOES to meet the compelling realities of the COE. An important goal is to ensure that the various NCOES programs are relevant to present and future operations. A number of factors from the COE have shaped the direction of the emerging NCOES—especially the transition to a modular force driven by the Army Force Generation (ARFORGEN) process, a more complex and uncertain COE, the expanding number of experienced/senior NCOs, new training requirements, and the persistently heightened OPTEMPO. These factors and others are reshaping the structure, approaches, and content of key POIs.

A critical objective of the NCOES transformation is to ensure the programs develop competent and adaptive leaders required in a more complex and uncertain environment. The COE is changing constantly, and the NCOES faces challenges to keep pace. Army NCOs will continue to be the experts in leader tasks for their respective levels of responsibility and in individual and small-unit training. They will continue to be the recognized experts in field craft,

marksmanship, Soldier care and technical skills. In addition to these traditional skills, the Army must develop NCOs who can digest new information quickly, adapt to rapid mission changes, and take advantage of opportunities on the battlefield. The NCOES aims to train the right tasks at the right levels and to prepare NCOs to operate in both analog and digital environments.

Within the newly emerging NCOES family of programs, the ALC program aims to develop squad/section leaders who are masters of their military occupational specialties (MOSs) as well as expert trainers and training managers. The ALC POI (formerly known as the Basic Noncommissioned Officer Course, or BNCOC) focuses on leading and training within the platoon formation and becoming familiar with core staff skills needed within the battalion. The ALC program has undergone substantive changes, including increased emphasis on student involvement in training, clearer focus on leading and training within platoons/squads, multi-echelon shared training events, and exposure to staff skills. The coursework trains warfighting skills, combat leadership, and training fundamentals. The common core portion of the course (Phase I) is taught via distance learning (video tele-training) or in residence (by exception) at an NCO Academy (NCOA). The technical portion of the course (Phase II) is completed in residence and lasts 4-5 weeks, depending on the career field. A key program goal is to conduct all training in a small group instruction environment with an instructor-to-student ratio of one instructor per 12-16 students.

The current OPTEMPO has also impacted Infantry ALC from other perspectives as well. For example, suspending the requirement for Soldiers to complete ALC training prior to promotion to Staff Sergeant (SSG) allows Soldiers to advance with the stipulation that training be completed later, usually within 180 days after completing deployment. Thus, many Soldiers enter ALC having already served as squad leaders (in combat). This has resulted in a greater diversity in rank and experience for Soldiers attending Infantry ALC training—anywhere from E5 (SGT) to E7 (SFC). While most ALC attendees have combat experience, a number have not had unit troop leading experience since being fire team leaders, while others have been Platoon Sergeants in combat. This also presents a serious challenge to course developers. With Infantry ALC training time cut from slightly over six weeks to four weeks, course developers must make difficult curriculum decisions concerning what topic areas to include, level of detail, method of presentation, and how to enhance course relevance. In addition, the Infantry School must prepare instructors to teach more advanced topics that are being migrated from the Advanced Noncommissioned Officer Course (ANCOC), such as composite risk assessment, military decision making process, mission planning, and orders preparation and presentation.

There is a need to assess the effectiveness of the new Infantry ALC Phase II POI in terms of its impact on Soldier performance/readiness in operational units. While gains observed in interim tests and end-of-course performance scores are suggestive, these improvements must be meaningful and linked to enhanced Soldier performance/readiness in the COE. Information on operational impact is needed to enable decision makers, course managers, and POI developers to refocus training where areas are identified for improvement. In particular, course developers must understand the impact of the curriculum decisions noted earlier on the Soldier's ability to apply—in other words, transfer—the knowledge and skills acquired in Infantry ALC to real world environments.

Transfer of Training

Framework and Definitions

Transfer of training generally refers to the application of acquired knowledge and skills to job performance (Burke & Hutchins, 2007). According to Baldwin and Ford (1988), two conditions must be met for transfer to occur—learned behavior must (a) generalize to the job context and (b) sustain itself over a period of time on the job. Smith, Ford, and Kozlowski (1997) argue for a third condition or indicator of transfer, the extent to which the trainee can adapt to novel or changing situational demands, with an emphasis on developing effective problem solving skills. The present research adopted these three conditions as the framework for defining transfer of training. Given the ultimate purpose of the Infantry ALC POI, the research focused on the impact of the resident phase on operational readiness. This focus led to selection of key dimensions—leadership, job performance and unit readiness—that could point to markers of ALC’s impact on operationally relevant parameters.

The interest in transferring skills from military training to operational settings is more than academic when survival in combat is at stake. Transfer should be a primary goal of Army training programs. Recent studies, however, indicated that the impact of training programs on transfer has been quite limited. Based on survey methods, Saks (2002) reported that about 40% of trainees fail to transfer immediately after training, 70% falter in transfer one year after the program, and ultimately only 50% of training investments result in organizational or individual improvements. In large part, the poor return on investment can be attributed to the failure to (a) systematically assess intervening/contextual variables impacting the transfer process (Holton, Bates, & Ruona, 2000) and (b) adjust programs to improve the training transfer process.

Near transfer is the application of learning to on-the-job situations similar to those in which initial learning occurred (e.g., repairing a radio). Near transfer would be the objective of short-term skill development that can be applied immediately to improve performance of one’s current duties (Spitzer, 1984). It is most critical in technical training, where typically the goal is to teach specific behaviors and procedures—such as operating a machine lathe or repairing small engines—that are applicable to the individual’s present job (Laker, 1990).

In contrast, far transfer refers to applying learning to situations dissimilar to those of the original learning (e.g., problem solving). Far transfer involves applying general principles so the learner can solve problems in the transfer environment (Goldstein, 1986). This approach is most appropriate for higher level cognitive skills such as decision-making and creative problem solving (adaptability), where the focus is on preparing trainees to better deal with unspecified problem areas in the future. (For further discussion of near versus far transfer, see Barnett & Ceci, 2002, and Kim & Lee, 2001.)

Training for Transfer

As part of the objective/goal setting process, trainers must determine if the training aims to improve near transfer, far transfer, or both (Yamhill & McLean, 2001). Near and far transfer can be viewed as a series of goals or objectives of training and should be reflected in the design

and content of instruction. It is critical to identify in advance the situations in which training is to be applied. No matter how well designed the training, the instructional program must directly address clearly identified individual and organizational problems. Thus, the extent to which the knowledge, skills, and attributes taught in training are relevant to the trainee's job performance is critical in determining transfer (Yamhill & McLean, 2001).

Transfer climate. Transfer of learning is a complex process and involves multiple factors and influences. The transfer climate may either support or inhibit application of learning on the job and is viewed by some (e.g., Rouiller & Goldstein, 1993) to be at least as important in facilitating transfer as learning itself. From a training investment perspective, it is important that the trainer or practitioner have the tools to accurately diagnose those factors inhibiting the transfer process and then intervene where appropriate (Holton, Bates, & Ruona, 2000).

Kirkpatrick's four-level evaluation model. Evaluation of interventions is one of the most critical issues faced by training practitioners in the area of human resource development. The dominant evaluation model currently in use is the one developed by Kirkpatrick (1994). While the model has certain shortcomings (see Holton, 1996) it nevertheless provides a useful means of categorizing data. Kirkpatrick's (1994) evaluation model defines four levels—reaction, learning, behavior, and results. These levels are hierarchical, progressing from trainee reactions to organizational outcomes. Briefly, *reaction* refers to how the trainees react to the training, characterized by overall like/dislike, acceptability, perceived quality, and similar dimensions. *Learning* is the extent to which trainees change attitudes, improve knowledge, and/or increase skills as a result of attending a program. *Behavior* is defined as the extent to which change in job performance (transfer of learning to the work place) has occurred because the participant received the training. *Results* refer to the final objectives of the program, such as better unit readiness, decreased equipment failures, reduced frequency/severity of accidents, and improved unit readiness. From one level to the next, the evaluation process becomes more difficult and time consuming, but the payoff in information obtained can be extremely valuable.

Current Research Strategy

The present research incorporated Kirkpatrick's taxonomy to guide the evaluation strategy. Measurement was targeted at assessing *reactions* (e.g., surveys of student expectations/attitudes, course characteristics, and job relevance), *learning* (subjective and objective measures of NCO competencies across ALC tasks), *behavior* (e.g., individual and unit performance from surveys, unit records, and focus group interviews), and *results* (e.g., unit readiness, morale and benefits from surveys and focus group interviews). The measurement focus embraced both near transfer (job-relevant abilities, behaviors, and attitudes) and indicators of far transfer (individual and unit performance, mission accomplishment, unit readiness, etc.).

Measures of transfer climate (global measures such as unit conditions influencing NCOs' application of ALC learning) were also targeted for the present research. The measurement strategy extended to key dimensions relating to personnel, training, and organizational factors that influence transfer of learning to job performance (Holton, Bates, and Ruona, 2000). These contributing factors were intended to enhance the value of Kirkpatrick's evaluation model by providing information on dimensions affecting transfer, thus helping trainers/researchers move

beyond the question of whether the training works to a deeper understanding of why the training was effective. In summary, the research strategy incorporated central issues identified by other researchers (e.g., Burke & Hutchins, 2007; Holton, Bates & Ruona, 2000) to improve the evaluation process. More specifically, the strategy targeted the following: (a) multisource feedback from trainees/peers, leaders, and unit records, (b) assessment of training and work environment factors impacting the transfer process, and (c) extension of the transfer interval to allow for assimilation and practice of newly acquired skills.

The importance of determining the impact of the resident Infantry ALC on operational readiness is obvious. A comprehensive evaluation focusing on both near and far transfer effects is critical to identifying and understanding issues shaping the NCOES transformation as well as determining the extent to which NCOES objectives are being met.

Technical Objectives

The overarching goal of the current project was to establish the methodological enablers for evaluating the training effectiveness of the revised Infantry ALC Phase II POI. These enablers included evaluation planning documents, metrics of operational impact, data collection tools, and evaluation procedures. By leveraging a program evaluation approach as the technical foundation (e.g., Kirkpatrick, 1994; Holton, 1996), the research set the stage for assessing the impact of the resident Infantry ALC Phase II POI on operational parameters of tactical units. The ultimate aim was to link ALC learning to individual and group performance as well as unit readiness. The following technical objectives guided the research:

- Establish key behaviors and candidate metrics of Infantry ALC Phase II impact on Soldier performance and readiness in operational units.
- Develop a field evaluation design with sampling plan and supporting materials.
- Construct suitable data collection instruments for use in schoolhouse and units.
- Develop procedures for using the instruments to collect training impact data.

The results of this research represent the first step in determining the new Infantry ALC Phase II POI's impact. By creating the design, methodology and tools for a unit-focused evaluation, the research paved the way for follow-on efforts to collect comprehensive data in the field.

Method

This section explains the method used to develop the various products (enablers) for the planned evaluation. Tailored processes were employed, depending on the outcome required. The technical approach called for developing planning and execution products within a program evaluation framework (Kirkpatrick, 1994; Holton, 1996). The research team began by crafting metrics of ALC impact, then developed an evaluation plan, and finally constructed tools and guidelines for collecting data. Interviews of Infantry ALC program players yielded constructive input to the metrics. The team used the metrics to shape the evaluation objectives and also to design the data collection instruments. A robust, iterative internal review process helped the team reach a state of consensus on each product.

The following major phases were executed to design, develop, and refine the various enablers of the follow-on evaluation:

- Creation of measures based on prioritized behavioral and performance outcomes
- Thorough evaluation design, planning and documentation
- Design of a coherent family of data collection instruments
- Development, review, and refinement of selected data collection instruments
- Development of data collection procedures in the form of a user friendly guide

Development of Course Impact Metrics

The team began by reviewing the course outline for Infantry ALC Phase II. The modules and lessons listed in the course outline were analyzed to produce a detailed list of behavioral outcomes (end state behaviors such as incorporating land navigation into training plans). The analysis also considered a small-unit proficiency test plan used by ALC instructors. The behavioral outcomes were not limited to course learning objectives, but rather encompassed a broader spectrum of student behaviors implied by the instructional topics. From the list of behavioral outcomes the team created a behavioral taxonomy consisting of functional categories (e.g., Warrior proficiency, direct leadership) with sample behaviors (e.g., performing combative techniques to standard) for each category.

In parallel with the analysis of Infantry ALC behavioral outcomes, the team's subject matter experts (SMEs) reviewed Army publications to glean doctrinal competencies expected of squad leaders (U.S. Department of the Army, 2002, 2006a, 2006b, 2007, 2008). The review produced a list of leadership, job performance and unit readiness indicators—such as fostering teamwork and cohesion—that could serve as markers of ALC's impact on operationally relevant parameters. Collectively the competence indicators formed a picture of a squad leader's expected performance parameters from a tactical unit's perspective.

The team next merged the behavioral taxonomy with the indicators of squad leader competence to produce a candidate list of ALC impact metrics. In the initial list, a modest family of measures (e.g., NCO conducts timely after action reviews, or AARs) was organized under a small set of functional categories (e.g., unit training, resource management). During structured interviews with Infantry ALC representatives (NCOA Commandant, course manager, and senior instructors), the team presented and discussed the initial list of metrics. The resulting feedback led the team to revise the list around the five roles of a multi-functional NCO—critical and creative thinker, warrior leader, leader developer, ambassador, and resource manager (Infantry ALC Course Manager, personal communication, May 7, 2008). After a series of revise-review-refine cycles the final version of the metrics list emerged with a streamlined family of measures, level-2 categories, and an extra category to account for global impact. A final interview with two course graduates yielded suggestions for refining and prioritizing the measures.

In developing the measures of global impact, the team capitalized on published work by Fecteau, Dobbins, Russell, Ladd, and Kudisch (1995), Crow (2007), and Holton, Bates, and Ruona (2000). These investigators identified individual and organizational dimensions that are important for understanding or explaining training transfer effects (e.g., motivation, incentives,

organizational commitment, supervisor's support). These dimensions helped shape the global impact measures, with an emphasis on perceptions revealed by self-ratings.

The final step in creating the Infantry ALC impact metrics entailed defining data elements for each measure, yielding an additional level of detail. As an example, the measure for fostering teamwork/positive climate spawned six data elements (e.g., adverse personnel incidents such as unauthorized absence). The aggregated measures with their data elements were compiled into a master list that could later guide the development of data collection instruments.

Development of Evaluation Plan

A primary goal of the project was to create a scientifically defensible framework and methodology for collecting evaluation data. The team developed two principal planning documents: (a) the *Evaluation Design Plan* and (b) the *Data Collection and Management Plan*. The investigators employed sequential, top-down design and development processes to ensure accurate functional linkages between the two documents.

The process for developing the *Evaluation Design Plan* balanced program evaluation best practices (Kirkpatrick, 1994; Holton, 1996) with the constraints of field research. The team began by defining the evaluation's purpose, goals, and objectives. They then analyzed those driving factors to determine key design parameters such as investigational paradigm, target population, design limitations, measurement focus, and data collection environment. Next the team developed an evaluation approach deemed suitable for satisfying the objectives and design parameters. Given the defined target population and the evaluation limitations, they crafted a sampling strategy aimed at yielding defensible sample sizes for the various sources of data.

After documenting the critical assumptions underlying the planned evaluation, the team prepared a comprehensive measurement strategy encompassing efficient processes for capturing robust, high-quality data. The measurement strategy extrapolated from the ALC impact metrics to define the types of measures (primary and secondary). The next step entailed identifying the family of required data collection instruments and data sources. The final step created a start-to-finish timeline, by stage, for the data collection activities and built a straw-man schedule accounting for the various stages.

Incorporated in the development method was a series of internal review steps, each of which prompted revision of the *Evaluation Design Plan*. The steps resulted in an iterative draft-review-revise process that ensured important issues were identified and resolved in progressive fashion. The review process played a critical role in producing a defensible planning foundation for the evaluation. In the final step, the design parameters and sampling strategy were adjusted to account for the expected availability of resources to increase the feasibility of successfully implementing the evaluation.

As the *Evaluation Design Plan* reached a reasonable stage of maturity, the team initiated work on the *Data Collection and Management Plan*. This process began with the preparation of a blueprint for the document in the form of an annotated outline. The team then composed the requisite sections by building on and elaborating the relevant parameters established in the

Evaluation Design Plan. Each step required detailed analysis, and certain sections (e.g., detailed scheduling, database requirements) involved creating new planning information. Throughout the entire process it was necessary to resolve numerous questions and issues. Substantial effort went into building and refining scheduling and staffing parameters for the complex family of data collection activities. These parameters were important because of their key role in shaping the resource requirements for the actual data collection to be conducted in follow-on efforts. Here, too, the team employed an iterative draft-review-revise process. At key points they cross-walked the draft *Data Collection and Management Plan* against the latest version of the *Evaluation Design Plan* to ensure accurate and consistent linkages.

Development of Data Collection Instruments

To enable the collection of comprehensive data on the impact of Infantry ALC training, the team designed a family of data collection tools and developed a portion of them. The goal was to establish standard tools tailored to the specific sources of data, relying on a mixture of objective, self report, and subjective measurement techniques. The effort built on the *Evaluation Design Plan*'s measurement strategy as well as the master list of measures compiled earlier as the final version of the course impact metrics.

To ensure a coherent measurement architecture for the data collection instruments, the development effort began with a front-end design stage. Using the *Evaluation Design Plan*'s inventory of required data collection instruments, the team defined the design parameters for each instrument. The parameters included target audience, presentation mode (e.g., hardcopy), time limit for completing the instrument, item limit, response mode (e.g., rating scale), modeling mechanism (e.g., example entries), and presentation approach (to include organization and layout). The team also listed the types of data that defined the measurement scope of each instrument. The design parameters and data types for all the instruments were compiled into an outline design document that included underlying principles and special considerations. After two rounds of internal review, this document was finalized to provide the roadmap for developing the data collection instruments themselves.

With the outline design document in hand, the team selected two survey questionnaires (start-of-course student survey, and end-state participant survey) for initial development as exemplars. For each exemplar, they used the master list of measures to identify specific data elements for inclusion. The investigators also identified supplemental data elements (e.g., parent unit and demographic information). The team then organized the mix of data elements in clusters of related items, where appropriate, and constructed the quantitative (rating-based) and qualitative items for the instrument. After adding administrative elements (e.g., date, location, instructions), the investigators obtained comments from internal reviewers and used the comments to revise the draft instrument. A second round of internal review with different team member(s) led to another revision of the questionnaire along with a verification check of its completeness against the master list of measures.

After the exemplar instruments had been through at least two review-revision cycles, the team used them to guide the construction of the remaining instruments selected for development in this project. The same iterative develop-review-revise process was followed during this stage.

A final review of editorial quality was performed, and the final instruments were produced in print-ready digital files suitable for formatting in machine-scan form. Precision file naming conventions were adopted to avoid confusion regarding version control.

No effort was made in the current project to pilot test any data collection instruments. That important step was reserved for the follow-on effort, to accommodate later modifications that might result from near-term planning and coordination with supporting units. The team included an outline plan for the pilot test in the *Data Collection and Management Plan*.

Development of Data Collector's Guide

The final product of the present research was the *Data Collector's Guide*, designed to serve as a daily job aid. The guide was meant to help standardize data collection processes and maintain the quality and integrity of the data. The primary goal was to equip the data collectors with an easy-to-use job aid containing only minimum essential information.

The team began this effort by developing a small set of design principles for the *Data Collector's Guide*, based on the investigators' understanding of the data collection environment. Applying these design principles, team members then selected essential information from the *Data Collection and Management Plan* and condensed it for concise presentation. A few unique elements of information were created, such as duties of a data collector and travel procedures. The team organized the topics in a sequence designed to make sense from a data collector's perspective. Substantial effort went into constructing a family of checklists detailing steps and timelines for each primary duty (activity) of a data collector. This typically involved creating new procedural details.

After integrating the various components into a unified package, the team cross-walked the draft *Data Collector's Guide* against the *Evaluation Design Plan* and the *Data Collection and Management Plan* to ensure consistency across documents. The investigators then orchestrated two rounds of internal review followed by revision of the guide. Finalization of the guide included a careful review of editorial quality. Beyond review by SMEs, no effort was made in the current project to pilot test the *Data Collector's Guide*. That critical step was targeted for the follow-on effort, to ensure realistic testing in an operational environment.

Products of the Research

This section describes and characterizes the products created to serve as enablers for the planned evaluation. The presentation is organized as follows:

- Course Impact Metrics
- Evaluation Design Plan
- Data Collection and Management Plan
- Data Collection Instruments
- Data Collector's Guide

The family of methodological documents produced in this project forms a comprehensive foundation for follow-on work to coordinate and execute the training transfer evaluation of the

revised Infantry ALC Phase II POI. Presented intact in the appendixes of this report, the documents provide building blocks for a future research team to harness in their efforts to collect meaningful data. The documents will help investigators standardize data collection procedures across field teams, units, and installations.

Course Impact Metrics

A series of products resulted from the phased efforts to develop metrics for measuring Infantry ALC's operational impact. These products will organize the discussion in this subsection, as follows:

- Behavioral outcomes
- Behavioral taxonomy
- Competence indicators
- Measurement categories
- Final list of measures with data elements

As the cornerstone of the metrics development process, the list of behavioral outcomes represented the implied learning outcomes of the ALC program, rather than the terminal learning objectives. Rooted in the POI, the behavioral outcomes were organized according to the POI's modules and subjects. Under the four modules were twenty subjects that spawned a total of 268 behavioral outcomes. For example, the behavioral outcomes included (a) NCO coaches Soldiers in land navigation procedures and (b) NCO seeks mentoring from Platoon Sergeant. Many of the outcomes were common across multiple subjects (e.g., coaching Soldiers), differentiated only by domain specifics. The complete list of behavioral outcomes is presented in Appendix B.

The list of behavioral outcomes gave rise to the *Behavioral Taxonomy* that offered a systematic schema for organizing ALC-related learning outcomes. As Appendix C shows, the taxonomy hinged on three areas—warfighting proficiency, leadership, and training—at the top level, with 14 categories under these areas (e.g., training management, tactical proficiency). Under each category were 3-7 representative behaviors, such as performing combative skills to standard and giving proper commands to Soldiers. A prime advantage of the taxonomy was its independence from the structure of the ALC POI, which gave it a useful measure of generality and comprehensiveness.

The search of Army publications for doctrinally anchored NCO competencies produced the third product in the metrics series—a list of 26 competence indicators intended to help keep the metrics focused on parameters of operational significance. Because of their doctrinal connection, the indicators reflected the job performance expectations for NCO-squad leaders working in tactical units. As seen in Appendix D, the competencies were organized under three broad categories:

- Leadership behavior (7 indicators such as guiding Soldiers and fostering teamwork)
- Job performance (14 indicators such as communicating and demonstrating competence)
- Unit readiness (5 indicators such as maintaining and reporting equipment readiness)

The initial list of metrics integrated features of the behavioral taxonomy and the NCO competencies. After internal review and revision, the list contained 57 specific measures

organized within five functional categories. The number of measures in each category ranged from 6 to 21. A cross-check verified that the revised list addressed all aspects of the behavioral taxonomy and the inventory of NCO competencies. The metrics categories included:

- Warfighting proficiency (e.g., operating weapons, performing Common Tasks)
- Military leadership (e.g., troop leading, communicating, developing subordinates)
- Resource management (e.g., accounting for resources, supervising maintenance)
- Unit training (e.g., developing training plan, preparing for and managing events)
- Self-development (e.g., working to improve leadership and warfighting skills)

When the research team discussed the initial list of metrics with Infantry ALC leaders and instructors in small-group interviews (1-3 participants per group), the resulting feedback led to substantive changes in the list's organization. As a result of recommendations obtained in interviews, the team adopted the five roles of a multi-functional NCO (Infantry ALC Course Manager, personal communication, May 7, 2008) as the categories for organizing the measures of training impact. Table 1 lists the roles along with the definitions developed for this effort. By and large, the multi-functional roles subsumed the five categories of the initial metrics list, with one major exception. The role of ambassador brought a new dimension to the metrics and led to the creation of new measures of ALC impact. The feedback from the ALC leaders and instructors also led to reducing the quantity of measures and prioritizing the final measures within each category and sub-category.

Table 1
The Five Roles of a Multi-Functional NCO

Role	What Does It Mean?
Critical and Creative Thinker	The cognitive dimensions related to adaptive performance; characterized by taking into account unique conditions, anticipatory thinking, defining and analyzing problems or challenges, thinking through alternatives, and learning through reflection.
Warrior Leader	The behavioral aspects of being a competent warfighter who leads combat units; includes expertise in tactical tasks and functions, mastery of technical skills, and proficiency in military leadership and teamwork.
Leader Developer	The team-focused dimensions of developing and maintaining tactically proficient squads/sections/crews; encompasses shaping the behaviors of subordinates, serving as primary trainer and evaluator, and improving one's own capabilities.
Ambassador	The behavioral and attitudinal dimensions of integrating the unit with non-Army elements including surrounding communities; characterized by projecting a professional image, conforming with local standards of behavior, collaborating externally, and leveraging community assets as mission enablers.
Resource Manager	The behavioral aspects of accounting for and protecting unit personnel, equipment, and supplies; includes implementing accountability procedures, accomplishing logistics functions, monitoring status of resources, and exercising custodial responsibility.

Beyond realigning the measurement categories, the ALC leaders and instructors offered other ideas for improving the metrics. Their suggestions led to several modifications:

- Selective addition of sub-categories to improve the organization of measures

- Reduction of the volume of measures by deleting overlapping items and combining closely related items
- Creation of ambassador measures that better fit the category
- Ordering measures according to rated importance
- Integration and streamlining of measures under Warrior Competencies
- Deletion of measures where a squad leader has no control or direct influence
- Expansion of the “during training” qualifier to include real-world operations

The final metrics package (see Appendix E) contained 44 measures organized under 6 categories—those listed in Table 1 plus the global impact category that accommodated overall measures and transfer climate factors. The structure of the final package is outlined in Table 2. As the table shows, three of the six categories were split into sub-categories. The number of measures in a given category or sub-category ranged from 2 to 5, with a median of 4 measures. The vast majority of the measures addressed the attributes or behavior of an individual NCO, but a few dealt with course impact at the level of individual squad members or a collective squad/platoon. The complete metrics package provided the basis for defining data elements that could be mapped into data collection instruments for the evaluation.

Table 2
Structure of Final Metrics Package

Category	Sub-Category	Measures
Critical & Creative Thinker	None	5 measures, individual (NCO)
Warrior Leader	Military Leadership	5 measures, individual (NCO, squad)
	Warrior Competencies	3 measures, individual (NCO)
Leader Developer	Counseling/Coaching/Mentoring	3 measures, individual (NCO)
	Training Subordinates	5 measures, individual (NCO)
	Shaping Unit Performance	4 measures, individual (squad) + unit
	Expanding Own Competencies	4 measures, individual (NCO)
Ambassador	All Environments	4 measures, individual (NCO, squad)
	Operational Environment	2 measures, individual (NCO)
Resource Manager	None	4 measures, individual (NCO, squad)
Global Impact	None	5 measures, individual + unit

The final metrics package comprised the master list of measures. To provide sufficient detail to define measurement procedures, the final list took each measure down to the level of data elements (see Appendix E). The data elements operationally defined the measures, pointing to specific aspects that could feasibly be measured. It was these elements that spawned the individual items for questionnaires, focus group protocols, and other data collection instruments. The number of elements under a given measure ranged from 2 to 6 for the primary measures (median = 4, mode = 4) and from 4 to 12 for the global measures (median = 9). Table 3 gives examples of the data elements for each measurement category.

Table 3
Example Data Elements, by Measurement Category

Category	Example Data Elements
Critical and Creative Thinker	<ul style="list-style-type: none"> • Ratings of extent to which ALC events provided relevant practice • Examples of ALC's impact on NCO's contributions to lessons learned • Comments re: ALC's impact on NCO's adaptive thinking
Warrior Leader	<ul style="list-style-type: none"> • Ratings of squad's improvement in teamwork, morale, respect, etc. • Squad's adverse personnel incidents (AWOL, disciplinary actions, etc.) • Comments re: ALC's impact on NCO's implementation of TTP
Leader Developer	<ul style="list-style-type: none"> • Ratings of ALC-attributed improvement in NCO's coaching, mentoring, etc. • Listing of professional development sessions in which NCO participated • Comments re: ALC's impact on squad's performance of battle drills
Ambassador	<ul style="list-style-type: none"> • Ratings of extent to which ALC enhanced NCO's cultural awareness • Listing of outside-the-unit activities or events which NCO led or participated in • Comments re: ALC's impact on NCO's consideration of community factors
Resource Manager	<ul style="list-style-type: none"> • Ratings of extent to which ALC training addressed managing unit resources • Ratings of ALC-attributed improvement in NCO's resource management • Comments re: ALC impact on NCO management of equipment maintenance
Global Impact	<ul style="list-style-type: none"> • Ratings of time and opportunities available to utilize KSAs learned in ALC • Squad and platoon performance ratings by training center observer/controllers • Comments regarding ALC benefits to NCO, squad, platoon, etc.

Note. AWOL = absent without leave; TTP = tactics, techniques and procedures.

As explained in the *Introduction* of this report, the evaluation strategy aimed to address both near and far transfer of ALC training, as well as key characteristics of the transfer climate. That the final metrics package achieved this goal is seen in Table 4, which sorts the various types of data elements according to the measurement area that each type of element fits best. All four levels of Kirkpatrick's (1994) measurement taxonomy are represented, especially the *behavior* and *results* levels.

Evaluation Design Plan

As the prime planning document, the *Evaluation Design Plan* (Appendix F) specified the general framework and technical approaches for conducting a systematic and comprehensive assessment. The plan established the foundation on which to construct the detailed planning documents and the data collection procedures. By incorporating the deliberate limitations as well as the expected resource constraints, the document bypassed the ideal or optimal evaluation design in favor of a realistic plan offering a high probability of implementation success.

As seen in Appendix F, the *Evaluation Design Plan* was organized into eleven elements: background, goals and objectives, design, technical approach, sampling strategy, assumptions, measurement strategy, measurement architecture (metrics categories), types of measures, data

collection basics, and scheduling information. The goals of the evaluation revolved around informing Infantry ALC program decisions and helping tactical units realize greater payoff from the program. The objectives focused on measuring improvement in the capabilities and performance of individual NCOs and their units, along with contributing factors. The plan's remaining elements outlined the major dimensions essential to accomplishing the goals and objectives. A briefing chart format was chosen to streamline the presentation of information and to later facilitate the process of briefing U. S. Army Forces Command (FORSCOM) stakeholders about the program.

Table 4
Final Metrics Package's Coverage of Measurement Areas

Area	Data Element Types
Near Transfer	<ul style="list-style-type: none"> • Perceived extent of ALC transfer to job-relevant behaviors and performance • Perceived ALC impact on job-relevant KSAs, behaviors, and attitudes • Perceived ALC impact on job performance style (e.g., efficiency, productivity) • Perceived ALC impact on ability to improve own professional skills • Perceived extent of positive feedback received from superiors and others • Scores achieved in special tests of tactical judgment/problem solving • Comments re: ALC impact on job-relevant KSAs, behaviors, and attitudes • Tracking or recall of activities/events of special interest • Examples (positive, negative) of performing specific job-relevant behaviors
Far Transfer	<ul style="list-style-type: none"> • Perceived ALC impact on subordinates' KSAs, attitudes, and understanding • Perceived improvement in squad performance, behaviors, and attitudes • Perceived ALC impact on accomplishment of specific unit functions/processes • Perceived ALC impact on specific aspects of mission accomplishment • Perceived ALC impact on individual's or squad's standing and contributions • Perceived ALC impact on ability to improve unit training and operations • Scores recorded for NCOs/subordinates/squad in unit training and testing events • Comments re: ALC impact on subordinate/squad KSAs, attitudes, performance • Comments re: ALC-attributed improvement in unit training and operations • Comments re: ALC benefits to individual and unit • Examples of accomplishments or contributions to specific unit functions • Examples (positive/negative) of ALC impact on squad members' KSAs • Examples (positive/negative) of ALC impact on squad functions and dynamics
Opportunity & Climate	<ul style="list-style-type: none"> • Perceived extent of ALC training or practice on specific KSAs and behaviors • Perceived relevance of ALC training to job performance and behaviors • Perceived extent to which a unit values/encourages application of ALC learning • Tracking of job-related activities involving application of ALC learning • Retrospective estimates of time available to apply ALC learning on the job • Retrospective ratings of opportunities to apply ALC learning on the job • Retrospective ratings of factors hindering application of ALC learning • Recall of conditions or events that could prompt specific NCO behaviors

Note. KSAs = knowledge, skills, and attributes.

Embedded in the *Evaluation Design Plan* were specifications resulting from decisions about the scope of the planned effort. Table 5 lists the major dimensions defining the scope and summarizes the provisions specified in the plan. Two of the more important delimiters dealt with which Army components and what geographic domain to target in the evaluation. The decision to include only Active Component units limited the ability to generalize the findings of the evaluation, as did the decision to restrict the geographic scope to the Continental United States (CONUS). However, these limitations were driven by practical reasons related primarily to deployment realities and resource constraints—reasons that were considered compelling.

Table 5
Scope of Evaluation

Dimension	What's Planned?
Purpose	Determination of operational impact of the new 11B ALC Phase II POI
Stakeholders	Army Infantry School, NCOA-Benning, FORSCOM Commanders
Army Components	Active Component units only, preferably in reset/train stage
Geographic Domain	Continental United States only (force projection base)
Measurement Scope	Focus on transfer of ALC learning to job performance and unit readiness
Calendar Scope	Ten-month window anchored to selected schoolhouse and MTT courses
Primary Outcome	Empirical data to support programmatic decisions regarding the ALC POI

Note. MTT = mobile training team.

Within the constraints of the evaluation's scope, the technical approach was constructed in the form of the primary evaluation design parameters listed in Table 6. A simple research paradigm was adopted in which a framework of putative change and multi-source assessment replaced consideration of including a control group. Arguing against a control group were methodological issues (e.g., unavailability of a "control" POI during the evaluation period) and resource constraints. For the heart of the sampling approach, it was decided to anchor the eligible NCOs to ALC courses rather than units or installations. Anchoring to scheduled courses would optimize sample sizes and facilitate the gathering of data while NCOs were ALC students. Specifying a minimum application period during which NCOs could employ what they learned from ALC was recognized as an essential part of the technical approach.

Several of the parameters in Table 6 comprised the terms of the measurement strategy. The six metrics categories discussed earlier (see Table 3) provided the framework for structuring the measures of Infantry ALC impact, with an overarching emphasis on linking measures to unit training and operations. The strategy called for measuring individual and collective impact parameters as well as opportunity parameters related to organizational programs—both the Infantry ALC POI and unit training/operations. The mix of data sources and measurement methods led to the specification of four types of data collection techniques—questionnaires, focus groups, situational judgment tests (SJTs), and records mining. The decision to collect data in a supervised setting (vs. a self-administered setting) resulted from a strong desire to maximize participation rates and avoid lost data.

Table 6
Primary Evaluation Design Parameters

Parameter	Summary
Hypothesis	New Phase II POI will improve 11B ALC's impact among tactical units
Research Paradigm	Multi-source assessment in putative change framework (no control group)
Sampling Approach	Target early courses conducted with new POI to define sampling domain
Application Period	At least 2 months as a post-ALC squad leader, 5-6 months desired
Variables of Interest	Type of delivery (schoolhouse vs. MTT), installation, demographic factors
Measures Framework	Six categories (based on multi-functional NCO) from metrics package
Measurement Levels	Individual (NCOs, squad members), collective (squad), POI (opportunity)
Data Sources	NCO-participants, in-the-know associates (leaders and peers), unit records
Measurement Methods	Mix of objective, self-report, self-rating, and other-rating techniques
Data Collection Tools	Questionnaires, focus groups, situational judgment tests, records mining
Measurement Setting	Data collection supervised by ARI researchers in operational environment

The principal elements of the sampling strategy for the evaluation appear in Table 7. To define the sampling pool within the target population of new POI graduates, the strategy targeted five early courses using the new POI—two schoolhouse courses and three mobile training team (MTT) courses (an MTT course hosts fewer students than a schoolhouse course). It was reasoned that bypassing the first few courses to utilize the new POI would allow the modified instructional process to stabilize. To maximize the sample sizes, the plan called for enrolling all eligible students in the selected courses as *participants*. Because of constraints expected in evaluation funding, only six of the eight eligible CONUS installations were targeted, three of which would house only schoolhouse participants.

Table 7
Elements of Sampling Strategy

Element	Summary
Target Population	Graduates of new POI (<i>participants</i>) plus <i>associates</i> in parent units
Course Targeting	2 schoolhouse and 3 MTT courses that follow initial iterations of new POI
Geographic Targeting	Six (of eight) CONUS installations where 11B ALC graduates work
Parent Unit Types	Aim for two light, two heavy, and two Stryker BCTs across installations
NCO Participants	All graduates of selected courses assigned to units 2+ mos from deploying
Unit Associates	Leaders and peers who observe a participant pre- and post-ALC
Selection Process	Based on criteria—duty position, CONUS stationing, temporal parameters
Sample Sizing	Determined by number of courses and criteria (no minimum or maximum)
Expected Attrition	10-20% of MTT and schoolhouse <i>participants</i> , up to 25% of <i>associates</i>
Participation Surety	Reliance on command emphasis coordinated through command channels

Note. BCT = Brigade Combat Team.

To sample different types of Brigade Combat Teams (BCTs), the strategy aimed to sample light, heavy, and Stryker BCTs—to the extent possible—for the schoolhouse and MTT cohorts. Applying the criteria-based process for selecting NCO-*participants* and their informed *associates* was expected to yield approximately 500 *participants* (evenly divided between schoolhouse and MTT courses) and approximately 1000 *associates* (2 per participant).

The *Evaluation Design Plan*'s discussion-free format (briefing charts) maintained the focus on central parameters and issues, and it minimized the effort required to revise the plan during the multiple cycles of review followed by revision. However, the lean presentation style largely ignored the options rejected for key parameters and the rationale behind the final decisions. The following bullets outline major options and the reason(s) for rejecting them:

- Exclusion of near transfer—excluding near transfer would limit the knowledge base appreciably and hinder interpretation of far transfer effects.
- Inclusion of control group—complete data collection would be impossible with a control group and the pre-post comparison paradigm should suffice.
- Including subordinates as data sources—available resources would not support the additional data collection efforts.
- Inclusion of associates with post-ALC acquaintanceship only—such a provision would negate the evaluation's putative change paradigm.
- Comparison between units at different life cycle stages—such comparison would undermine the goal of 5-6 months for the application period.
- Sample size target as low as 200 participants—larger sample size would enhance confidence in findings without increasing costs unacceptably.
- Sampling up to 4 associates (vs. 2) per participant—increased costs would outweigh the statistical benefits of larger sample sizes.
- Desired application period of only 2-3 months—robust application of ALC learning would require 5-6 months in light of today's deployment pressures.
- Including structured interviews in data collection—the resource-intensive technique was abandoned in favor of higher payoff focus groups.
- Omitting objective competence measures such as SJTs—measuring competencies by subjective means only would limit the credibility of the findings.
- De-emphasis of self-rating data—risk of inflating own capabilities was minimized by placing self-ratings in the context of ALC impact.

Data Collection and Management Plan

The *Data Collection and Management Plan* (Appendix G) provided the roadmap for creating an ALC impact database of high quality, stopping short of data analysis. This plan built on the *Evaluation Design Plan*, especially the measurement and sampling strategies, and on the impact metrics to specify the procedures for collecting and managing robust data. With its focus on specifications and procedures, this document formed a detailed planning tool to guide preparation and execution of data collection and processing activities during the evaluation. The plan incorporated flexibility to rescale specific features in response to resource constraints and/or troop support limitations.

As Appendix G shows, the *Data Collection and Management Plan* described in detail the sampling procedures, data requirements, data collection instruments and procedures, scheduling parameters, data management procedures, database requirements, resources, data collection locations, and pilot testing. Driven by the sampling goals established in the *Evaluation Design Plan*, the sampling procedures detailed the process and criteria for selecting participants and associates from the targeted Infantry ALC classes. The list of data collection instruments emphasized survey questionnaires and focus group protocols, but included other instruments such as SJTs and an application checklist. This section also specified the process for approving and producing the instruments, stressing standardization and quality control. The section on data collection procedures presented general guidelines plus the major requirements—administration, advance preparation, actions during and after the session, etc.—for each type of activity (e.g., SJT sessions). The data management section provided procedural guidelines for identifying and inventorying data, transferring hardcopy data into digital form, maintaining physical security, and archiving data. Several of the sections—data collection schedule, resources, and data collection locations—were designed to support resource planning for the future evaluation. To optimize the quantity and quality of actual data, the plan called for data collection teams visiting the schoolhouse and/or home stations where the participants and their associates would reside.

Within the Resources section, the staffing plan called for a minimum essential mix of research personnel with clearly defined responsibilities. The research team included an evaluation manager, a data manager, data collectors (SMEs and generalists) organized in two-person teams, a database technician, and a data entry clerk. No duties were allocated to MTT, schoolhouse, or unit personnel beyond availability of an administrative point of contact (POC).

At a global level, the framework for scheduling data collection activities entailed four phases (Table 8) that would take a given group of participants from the start of their course attendance through the measurement of ALC impact after the prescribed application period. The first three phases involved collecting data from *participants* only, while the fourth phase (end state assessment) involved both *participants* and *associates*. From start to finish, the ideal timeline for data collection associated with a given course would extend across 7-8 months. If unit circumstances were to shorten or lengthen the application period, the actual timeline could range from a minimum of 3 months to something exceeding 8 months.

Table 8
Phases of Data Collection

Phase	Desired Timeframe	Focus
Start-of-Course Snapshot	First 2 days of course	Demographics, pre-training status
End-of-Course Snapshot	Final 3 days of course	Post-training status and reactions
Application/Incubation	5-6 consecutive months	Application of ALC learning on the job
End State Assessment	5-6 months post-ALC	Multi-source measurement of ALC impact

For detailed scheduling of specific activities, the *Data Collection and Management Plan* addressed the following parameters: when, duration, cohort size, working group size, number of groups, and data collector demand. Two of these parameters (when and duration) had a direct

influence on timing. The remaining parameters (e.g., working group size, number of groups) exerted an indirect influence by determining the number of iterations for a specific activity. The final parameter—data collector demand—will become important when allocating the time of a limited pool of data collectors.

A number of issues arose while developing the *Data Collection and Management Plan*. Generally, the issues were resolved by making reasoned assumptions, with the understanding that invalid assumptions may necessitate revising the plan when data collection is about to start. The primary assumptions included:

- The proportion of Infantry ALC students meeting the *participant* criteria will be at least 70% for schoolhouse courses and up to 95% for MTT courses.
- Unit *associates* who know each *participant* before and after ALC attendance will be available.
- Attrition will not exceed 20% for *participants* and 25% for *associates*.
- Course managers and units will fully support by-name scheduling of personnel.
- Battalions would strongly prefer to schedule all end state activities for their personnel within a one-week window.
- Centralized production of forms would preclude quality control problems.
- Online versions of data collection instruments will be unnecessary.
- Units will support providing data elements from unit records.
- The data manager will be capable of designing and managing the central database.
- Installation facilities used by data collectors will afford protection of stored data.

The *Data Collection and Management Plan* presented in Appendix G took into account the planning factors known during the current project. It will be imperative to update and refine the plan in the early stages of the follow-on project.

Data Collection Instruments

The family of data collection instruments stemmed from the applicable evaluation design parameters (see Table 6), especially the data sources and measurement methods/tools. Table 9 lists the complete set of instruments, along with the administration timeframe and measurement focus. As the table shows, five types of instruments were planned: survey questionnaires, focus group protocols, SJTs, application checklist, and unit records-based capture form.

Across the entire family of tools, a variety of data collection techniques was planned: scale-based ratings, skills/knowledge testing, comments (both written and oral), and activity tracking (recurring checklist). In addition, mining of focus group products and unit records was incorporated selectively. This combination of techniques was designed to (a) satisfy the data requirements of the impact metrics, (b) accommodate target audience habits and preferences, and (c) diversify data collection efforts. The mix of techniques was tailored to each source of data.

The outline design document for the planned data collection instruments (Appendix H) provided the blueprint for constructing the actual tools and forms. For each instrument identified in Table 9, the document outlined the design parameters and measurement scope. It also included notes about the underlying principles and special considerations involved in building

the instruments. The design guidelines were crafted to ensure that the family of instruments would (a) exhibit a consistent appearance, (b) be logically organized and easy to use, (c) fit the constraints of the data collection environment, and (d) produce high-quality data. The design guidelines addressed the following dimensions:

- Target audience (data source)
- Delivery medium (e.g., hardcopy forms, group facilitation)
- Practical limits (e.g., completion time, number of items)
- Prompting mechanism (e.g., itemized list of response options)
- Response modes (e.g., rating scale, write-in comments)
- Clustering principle (e.g., grouping of related items)
- Special formatting (e.g., structure of SJT questions)
- Modeling mechanism (e.g., filled-in example)
- Administration mechanism (e.g., two-person focus group team)
- Nature of instructions (e.g., geared for respondents or facilitators)
- Test conditions such as proctoring (SJTs only)
- Scoring approach (SJTs only)

Table 9
Data Collection Instruments Planned for the Evaluation

Instrument	When	Measurement Focus
<i>Survey Questionnaires</i>		
Biographical Inventory	Start of course	Demographics, schooling, assignments, deployments
ALC Students Survey #1	Start of course	NCO competencies, motivation, course expectations
ALC Students Survey #2	End of course	Opportunities, NCO competencies, learning outcomes
End State Participant Survey	End state	Change in own and unit behavior and performance
Unit Leaders Survey	End state	Change in NCO and unit behavior and performance
Unit Peers Survey	End state	Change in NCO and unit behavior and performance
<i>Focus Group Protocols</i>		
ALC Students Focus Group	End of course	Opportunities, learning outcomes, expectations
Participants Focus Group	End state	Behavior/performance changes, examples, benefits
Unit Leaders Focus Group	End state	Behavior/performance changes, examples, benefits
Unit Peers Focus Group	End state	Behavior/performance changes, examples, benefits
<i>Miscellaneous Instruments</i>		
Situational Judgment Test #1	Start of course	Objective NCO abilities (pre-coursework)
Situational Judgment Test #2	End of course	Objective NCO abilities (post-coursework)
Application Checklist	Recurring	On-the-job application opportunities, activity examples
Unit Records Capture Form	End state	Personnel incidents, individual/unit proficiency scores

For the sake of a consistent quantitative response framework, an “agree-disagree” rating scale served as the predominant scaling tool in questionnaires. Omission of a neutral point (“no

opinion”) discouraged fence-sitting, but a “not performed” or “not observed” option was used routinely. Alternative scales (e.g., confidence in own ability) were used when warranted.

As discussed earlier, one of the evaluation design parameters called for collecting data in the schoolhouse or unit environment under the supervision of researchers (see Table 6). This defined the global conditions for implementing the data collection instruments. Specific aspects of the implementation environment for each type of activity included the following:

- Survey questionnaires—large or small groups of Soldiers working independently, with an administrator
- Focus groups—small groups of Soldiers brainstorming collaboratively under the guidance of a facilitator, with a separate note taker
- Situational judgment tests—large groups of participants working independently, monitored by a proctor
- Application checklists—individual participants working alone at the end of a pay period, with reminders from a unit action officer
- Unit records-based capture—a researcher visiting the appropriate headquarters elements, with assistance from a unit POC

Data Collector’s Guide

The *Data Collector’s Guide* (Appendix I) formed the primary job aid for research team members who would be collecting data in the future evaluation. Building on the *Data Collection and Management Plan*, the guide packaged critical background and instructions for collecting and protecting high quality data. With its focus on who-what-when-where-how information, the guide provided a highly practical tool to structure the activities of data collectors as they execute their data collection and processing duties. The document constituted a critical resource for standardizing the pivotal processes for gathering and assembling Infantry ALC impact data.

The results of the design stage for the *Data Collector’s Guide* are summarized in Table 10. The overall goal was to produce a concise, all-in-one job aid containing minimum essential information. The decision to emphasize how-to checklists backed up by sample products came from a desire to arm a data collector with simple procedural templates. The design goals set the stage for a guide that (a) focused on working procedures, (b) avoided non-essential information, (c) could be used anywhere, and (d) would readily prove its value. The goals shaped the form, organization, and contents of the guide itself.

Six elements provided a streamlined organizational scheme for the *Data Collector’s Guide*—cover sheet, about-this-guide capsule, main body, project information, list of data collection activities, and procedural checklists. Within the main body, twelve brief sections introduced the researcher to the purpose, players, locations, sources, phases, and tools of the data collection effort. Two sections stated the duties of a data collector along with key do’s and don’ts. Also addressed were topics such as dress code, travel requirements, and optional sources of information. Concluding the guide were the all-important procedural checklists—one for each major activity to be performed by data collectors (e.g., scheduling end state sessions, administering an SJT session, submitting data). The compact size of the guide (15 pages including the cover sheet) made it easy to carry the document to any work location.

Table 10
Design Goals for Data Collector's Guide

Dimension	Design Goal
Purpose	Equip data collectors with easy-to-use, all-in-one job aid
Scope	Limit contents to minimum essential information needed in the field
Range of Topics	Cover process overview plus procedures for major data collection activities
Organization	Employ simple, functional scheme to support easy location of information
Contents	Combine main body with step-by-step checklists and sample products
Presentation Mode	Use concise bullets to optimize ease of use and compactness
Utilization Mode	Gear document for hardcopy utilization to support unrestricted mobility
Self-Sufficiency	Ensure stand-alone document that points to optional sources of information

The *Data Collector's Guide* in Appendix I conveyed the essential information as it existed during the current project. It will be imperative to update and refine the guide in the early stages of the follow-on project, then again after pilot testing.

Recommendations

The products of the current project form the foundation for the evaluation of Infantry ALC's operational impact. The *Evaluation Design Plan* establishes the architecture and blueprint for conducting a systematic assessment. The *Data Collection and Management Plan* contains the roadmap for creating a high quality database on ALC impact. The outline design for the data collection instruments, in combination with the metrics package, will guide the completion of the tools for capturing the required data elements. The *Data Collector's Guide* comprises a critical job aid for standardizing the data collection processes. In the hands of the follow-on team, this family of products will enable rapid preparation and standardized execution of the evaluation activities.

The products contained in the appendixes of this report account for the planning factors known during the current project. Certain assumptions may prove invalid, and new issues will surely arise during the detailed coordination with the Infantry ALC community and tactical units. It will be imperative to update and refine the products as detailed preparation for the evaluation proceeds. Pilot testing will drive additional refinements as the products are finalized. The follow-on team should carefully manage the updating and refinement process to ensure that the execution activities fully meet the evaluation objectives.

During the interviews and focus groups that reviewed the draft metrics package, the ALC stakeholders offered suggestions for harnessing the metrics of Infantry NCO job performance. Among the more promising suggestions were the following, which may eventually apply to career fields beyond Infantry:

- Provide the metrics for optional use by unit leaders to assess NCO performance and/or support counseling activities.

- Employ the metrics as diagnostics to shape unit training and/or self-development efforts that focus on areas needing improvement.
- Use the metrics to modify or supplement the current NCO Evaluation Report criteria, with the goal of enhancing the professional development process.
- Create a metrics-based form that the Infantry School could send to units as a feedback mechanism to address ALC effectiveness.
- Apply the metrics to develop a tool that units could use to provide recommendations to the Infantry School for improving the ALC program.

This project's systematic planning products provide a practical start point for the unit-focused evaluation of the transfer of Infantry ALC training. The incorporation of context measures to illuminate why transfer effects do or do not occur will yield important clues about definitive POI improvements. As the follow-on team prepares for data collection, they must update and finalize the products, complete the development of data collection instruments, and conduct a thorough pilot test. The process should take into account the realities of the classroom and unit environments, to include evolving interests of key stakeholders and emerging data collection constraints.

The future results of the evaluation will shed light on those aspects of the new Infantry ALC POI that strongly impact operational parameters. The findings will help decision makers, course managers, and curriculum developers to refocus training so as to enhance the transfer of NCO knowledge and skills. In turn, the stronger transfer of ALC learning will improve the job performance of junior NCOs and strengthen their contributions to unit training and operations. Ultimately, such improvements can be expected to enhance combat readiness and force effectiveness.

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APPENDIX A

Acronyms and Abbreviations

Note: This list includes items from the appendixes.

AAR	after action review
ABCS	Army Battle Command System
ALC	Advanced Leaders Course
ANCOC	Advanced Noncommissioned Officer Course
APFT	Army Physical Fitness Test
ARFORGEN	Army Force Generation (model)
ARI	U.S. Army Research Institute for the Behavioral and Social Sciences
ARTEP	Army Training and Evaluation Program
AWOL	absent without leave
BCT	Brigade Combat Team
BNCOC	Basic Noncommissioned Officer Course
CD	compact disc
Cdr	commander
Co	company
COE	contemporary operational environment
COIN	counterinsurgency
CONUS	Continental United States
CTC	Combat Training Center
DC	data collection
DO	delivery order
FarXfer	Far Transfer (project)
FBCB2	Force XXI Battle Command Brigade and Below
FO	Forward Observer
FORSCOM	U.S. Army Forces Command
FOUO	For Official Use Only
HQ	headquarters
IAW	in accordance with
ID	identify / identification
ID#	identification number
KSAs	knowledge, skills, and attributes

METT-TC	mission, enemy, terrain and weather, troops and support available, time available, civil considerations
MOS	Military Occupational Specialty
MTT	Mobile Training Team
NCO	noncommissioned officer
NCOA	Noncommissioned Officer Academy
NCOES	Noncommissioned Officer Education System
OPORD	operation order
OPTEMPO	operational tempo
Plt Ldr	Platoon Leader
Plt Sgt	Platoon Sergeant
POC	point of contact
POI	program of instruction
SFC	Sergeant First Class
SGT	Sergeant
SJT	situational judgment test
SME	subject matter expert
SOP	standing operating procedures
SSG	Staff Sergeant
SSN	Social Security Number
T&EO	Training and Evaluation Outline
TACSOP	tactical standing operating procedures
TADSS	training aids, devices, simulators, and simulations
TI	Tactical Internet
TIS	time in service
TLP	troop leading procedures
TO&E	Table of Organization and Equipment
TSOP	tactical standing operating procedures
TTP	tactics, techniques, and procedures
UCMJ	Uniform Code of Military Justice
USR	Unit Status Report

APPENDIX B

Behavioral Outcomes

(Based on 4-week ALC POI of April 2008)

Module	Subject	Behavioral Outcomes
COMMON	Land Navigation Testing	<ul style="list-style-type: none"> • NCO realistically incorporates land navigation into training plans • NCO explains land navigation procedures to Soldiers • NCO coaches Soldiers in proper land navigation procedures • NCO answers Soldiers' questions in accurate and timely fashion • NCO confirms use of proper land navigation procedures by Soldiers • NCO facilitates learning by tolerating failure and giving timely feedback • NCO evaluates performance measures IAW Soldier task standards • NCO includes land navigation aspects in AAR discussions • Soldiers execute proper land navigation procedures during training • Soldiers perform to standard in training exercises • Squads/sections/crews perform to standard in training exercises
	FBCB2 (Familiarization)	<ul style="list-style-type: none"> • NCO realistically incorporates FBCB2 operations into training plans • NCO explains FBCB2 procedures to Soldiers and fellow NCOs • NCO coaches Soldiers in proper FBCB2 operating procedures • NCO answers Soldiers' questions in accurate and timely fashion • NCO confirms proper setup and configuration of FBCB2 and TI • NCO facilitates FBCB2 problem identification and troubleshooting • NCO identifies authoritative sources of information on FBCB2 • NCO verifies Soldiers follow unit TACSOP, adjusts training as needed • NCO facilitates learning by tolerating failure and giving timely feedback • NCO evaluates performance measures IAW TACSOP and training plan • NCO provides feedback on digital performance during AARs • Soldiers perform proper FBCB2 operating procedures during training
	Forward Observer Procedures	<ul style="list-style-type: none"> • NCO realistically incorporates FO duties into training plans • NCO explains FO procedures to Soldiers and fellow NCOs • NCO coaches Soldiers in proper FO procedures • NCO answers Soldiers' questions in accurate and timely fashion • NCO confirms proper setup and configuration of FO systems • NCO facilitates FO system problem identification and troubleshooting • NCO identifies authoritative sources of information on squad level FO • NCO verifies Soldiers follow unit TACSOP, adjusts training as needed • NCO facilitates learning by tolerating failure and giving timely feedback • NCO evaluates performance measures IAW ARTEP standards • NCO provides feedback on FO performance during AARs • Soldiers execute proper FO procedures during training exercises
	Infantry Futures	<ul style="list-style-type: none"> • NCO explains new Infantry initiatives and equipment accurately • NCO readily incorporates new equipment into squad training plans • NCO realistically incorporates Infantry initiatives into training plans • NCO answers Soldiers' questions in accurate and timely fashion • NCO describes own efforts to stay abreast of new developments • NCO identifies authoritative sources of information on Infantry futures

Module	Subject	Behavioral Outcomes
	Vehicle Maintenance	<ul style="list-style-type: none"> • NCO follows vehicle maintenance SOP including documentation reqts • NCO maintains or provides input to unit maintenance schedule • NCO routinely monitors maintenance status of vehicles • NCO inspects vehicles as part of equipment readiness program • NCO explains vehicle maintenance schedule & procedures to Soldiers • NCO verifies Soldiers understand their vehicle maintenance duties • NCO coaches Soldiers in proper maintenance procedures • NCO answers Soldiers' questions in accurate and timely fashion • NCO supervises execution of squad level maintenance activities • NCO monitors Soldiers' maintenance actions and provides feedback • NCO verifies implementation of proper vehicle maintenance procedures • NCO identifies maintenance problems and takes corrective action • NCO mentors new NCOs on operator vehicle maintenance duties • NCO stays aware of changes in vehicle maintenance requirements • NCO integrates new systems into squad vehicle maintenance program • Soldiers execute proper squad level maintenance procedures
	Platoon Sgt Roles (Familiarization)	<ul style="list-style-type: none"> • NCO explains Platoon Sergeant duties to other NCOs and Soldiers • NCO answers Soldiers' questions in accurate and timely fashion • NCO identifies authoritative sources of information on Plt Sgt roles • NCO seeks mentoring from Platoon Sergeant • NCO assists or stands in for Platoon Sergeant as opportunities arise
WEAPONS	Demolitions	<ul style="list-style-type: none"> • NCO applies demolition fundamentals in training exercises • NCO selects appropriate explosive and technique for situation • NCO executes proper steps during training exercises • NCO adjusts demolition procedures according to exercise conditions • NCO gives proper commands/directions to Soldiers at training site • NCO IDs training objectives (Cdr, intermediate, and opportunity tasks) • NCO prepares squad training plan that is realistic and challenging • NCO develops training plan IAW TACSOP and changing conditions • NCO develops contingency plan for weather, time, and other factors • NCO IDs hazards/risks and implements appropriate control measures • NCO requests all resources (incl explosives) required by training plan • NCO confirms that all resources are available, adjusts if necessary • NCO follows range occupation/setup plan, adjusts as necessary • NCO follows training execution plan and adapts to changing conditions • NCO manages time effectively so all Soldiers are engaged in training • NCO implements concurrent training plan and adapts to changes • NCO facilitates learning by tolerating failure and giving timely feedback • NCO implements contingency plan immediately upon notification • NCO evaluates performance measures IAW established task standards • NCO conducts AARs that cover four basic elements • NCO uses constructive techniques in conducting AARs • NCO follows recovery plan and adapts to changing conditions • Soldiers execute proper demolition procedures during training • Squad/section performs to standard in training exercises

Module	Subject	Behavioral Outcomes
	Small Arms Proficiency*	<ul style="list-style-type: none"> • NCO IDs training objectives (Cdr, intermediate, and opportunity tasks) • NCO prepares squad training plan that is realistic and challenging • NCO develops training plan IAW checklist and changing conditions • NCO follows 8-step training strategy • NCO develops contingency plan for weather, time, and other factors • NCO creates lesson outline IAW group objectives • NCO chooses correct range for the weapon system • NCO IDs hazards/risks and implements appropriate control measures • NCO requests all resources (incl full ammo) required by training plan • NCO confirms that all resources are available, adjusts if necessary • NCO follows range occupation/setup plan, adjusts as necessary • NCO follows training execution plan and adapts to changing conditions • NCO gives proper commands to students on firing range • NCO coaches Soldiers in proper weapons operation and safety • NCO coaches Soldiers in marksmanship fundamentals • NCO gives signal to change weapon barrel at proper time • NCO manages time effectively so all Soldiers are engaged in training • NCO implements concurrent training plan and adapts to changes • NCO facilitates learning by tolerating failure and giving timely feedback • NCO implements contingency plan immediately upon notification • NCO evaluates performance measures IAW ARTEP standards • NCO conducts AARs that cover four basic elements • NCO uses constructive techniques in conducting AARs • NCO follows recovery plan and adapts to changing conditions • Soldiers place weapon system into operation correctly and fully • Soldiers apply marksmanship fundamentals to achieve passing score • Soldiers adjust firing procedures according to environmental conditions • Soldiers control rate of fire appropriately • Soldiers execute proper steps to clear weapon
COMBATIVES	Basic Techniques	<ul style="list-style-type: none"> • NCO realistically incorporates combatives into training plans • NCO confirms that all equipment and safety devices are available • NCO explains combative techniques to Soldiers and fellow NCOs • NCO coaches Soldiers in combative techniques and skills • NCO shares combative experiences with Soldiers • NCO manages time effectively so all Soldiers are engaged in training • NCO answers Soldiers' questions in accurate and timely fashion • NCO identifies authoritative sources of information on combatives • NCO verifies Soldiers perform proper combative techniques • NCO facilitates learning by tolerating failure and giving timely feedback • NCO evaluates Soldier performance IAW established task standards • NCO provides feedback on combatives performance during AARs • Soldiers execute proper combative techniques during training exercises • Soldiers perform to standard in practice sessions • Soldiers adjust combative techniques according to tactical conditions

Module	Subject	Behavioral Outcomes
	Basic Fighting Strategy	<ul style="list-style-type: none"> • NCO realistically incorporates combatives into training plans • NCO confirms that all equipment and safety devices are available • NCO explains combative strategy to Soldiers and fellow NCOs • NCO coaches Soldiers in combative fighting strategy • NCO shares fighting experiences with Soldiers • NCO manages time effectively so all Soldiers are engaged in training • NCO answers Soldiers' questions in accurate and timely fashion • NCO identifies authoritative sources of information on combatives • NCO verifies Armys implement proper fighting strategy • NCO facilitates learning by tolerating failure and giving timely feedback • NCO evaluates Soldier performance IAW established task standards • NCO provides feedback on combatives performance during AARs • Soldiers execute proper fighting strategy during training exercises • Soldiers perform to standard in practice sessions • Soldiers adjust fighting strategy according to tactical conditions
	Basic Drills	<ul style="list-style-type: none"> • See <i>Basic Techniques</i> and <i>Basic Fighting Strategy</i>
	Advanced Ground Fighting Familiariz'n	<ul style="list-style-type: none"> • See <i>Basic Techniques</i> and <i>Basic Fighting Strategy</i>
PLATOON TACTICS	Platoon Tactical Operations	<ul style="list-style-type: none"> • NCO backbriefs Plt Ldr to convey understanding of OPORD • NCO briefs OPORD to squad members in unit training exercises • NCO assists Plt Ldr/Sgt in executing TLP during unit training exercises • NCO manages time to meet mission milestones in unit tng exercises • NCO implements TLP to achieve mission goals in unit tng exercises • NCO answers Soldiers' questions in accurate and timely fashion • NCO identifies authoritative sources of information on orders and TLP • NCO works to improve TLP skills based on AAR feedback • NCO coaches peers re: combat orders, TLP, tactical briefing, etc. • NCO seeks mentoring from Plt Sgt re: combat orders and TLP
	Tactical Questioning	<ul style="list-style-type: none"> • NCO realistically incorporates tactical questioning into training plans • NCO explains proper procedures to Soldiers and fellow NCOs • NCO demonstrates use of proper tactical questioning techniques • NCO coaches Soldiers in tactical questioning procedures • NCO shares operational experiences during class discussions • NCO answers Soldiers' questions in accurate and timely fashion • NCO IDs authoritative sources of information on tactical questioning • NCO verifies Soldiers follow unit TACSOP, adjusts training as needed • NCO facilitates learning by tolerating failure and giving timely feedback • NCO evaluates performance measures IAW TACSOP and training plan • NCO provides feedback on Soldier performance during AARs • Soldiers perform proper tactical questioning during training exercises • Soldiers perform to standard in training exercises • Soldiers adjust procedures according to tactical conditions

Module	Subject	Behavioral Outcomes
	Infantry Battle Drills**	<ul style="list-style-type: none"> • NCO IDs training objectives (Cdr, intermediate, and opportunity tasks) • NCO prepares squad training plan that is realistic and challenging • NCO develops training plan IAW checklist and changing conditions • NCO follows 8-step training strategy • NCO develops contingency plan for weather, time, and other factors • NCO creates lesson outline IAW group objectives • NCO chooses correct training site/range for the training objectives • NCO IDs hazards/risks and implements appropriate control measures • NCO requests all resources (e.g., check point materials) required • NCO confirms that all resources are available, adjusts if necessary • NCO follows training execution plan and adapts to changing conditions • NCO coaches Soldiers in executing battle drills • NCO gives proper commands to squad members during training • NCO executes proper leadership techniques during training exercises • NCO adjusts procedures according to tactical conditions • NCO shares operational experiences with Soldiers • NCO manages time effectively so all Soldiers are engaged in training • NCO implements concurrent training plan and adapts to changes • NCO facilitates learning by tolerating failure and giving timely feedback • NCO implements contingency plan immediately upon notification • NCO evaluates performance measures IAW ARTEP standards • NCO conducts AARs that cover four basic elements • NCO uses constructive techniques in conducting AARs • NCO follows recovery plan and adapts to changing conditions • Soldiers perform battle drills to standard in training exercises • Squad/section performs battle drills to standard in training exercises • Soldiers adjust procedures according to tactical conditions
	Tactical Site Exploitation	<ul style="list-style-type: none"> • NCO incorporates tactical site exploitation into training plans • NCO explains proper procedures to Soldiers and fellow NCOs • NCO demonstrates use of tactical site exploitation techniques • NCO coaches Soldiers in tactical site exploitation procedures • NCO gives proper commands to squad members during training • NCO executes proper leadership techniques during training exercises • NCO adjusts procedures according to tactical conditions • NCO shares operational experiences with Soldiers • NCO answers Soldiers' questions in accurate and timely fashion • NCO IDs authoritative sources of info on tactical site exploitation • NCO verifies Soldiers follow unit TACSOP, adjusts training as needed • NCO facilitates learning by tolerating failure and giving timely feedback • NCO evaluates performance measures IAW TACSOP and training plan • NCO provides feedback on Soldier performance during AARs • Soldiers perform tactical site exploitation to standard during training • Squad/section performs to standard in training exercises • Soldiers adjust procedures according to tactical conditions

Module	Subject	Behavioral Outcomes
	Counterinsurgency (COIN)	<ul style="list-style-type: none"> • NCO incorporates COIN tasks and procedures into training plans • NCO explains COIN TTP to Soldiers and fellow NCOs • NCO coaches Soldiers in squad/section level COIN procedures • NCO adjusts procedures according to tactical conditions • NCO shares operational experiences with Soldiers • NCO answers Soldiers' questions in accurate and timely fashion • NCO IDs authoritative sources of information on COIN operations • NCO verifies implementation of proper COIN procedures • NCO facilitates learning by tolerating failure and giving timely feedback • NCO evaluates performance measures IAW ARTEP standards • NCO provides feedback on Soldier performance during AARs • Soldiers perform COIN procedures to standard during training • Squad/section performs to standard in training exercises • Soldiers adjust procedures according to tactical conditions
	Convoy Operations	<ul style="list-style-type: none"> • NCO incorporates convoy tasks and procedures into training plans • NCO explains convoy TTP to Soldiers and fellow NCOs • NCO coaches Soldiers in squad/section level convoy procedures • NCO adjusts procedures according to tactical conditions • NCO shares operational experiences with Soldiers • NCO answers Soldiers' questions in accurate and timely fashion • NCO IDs authoritative sources of information on convoy operations • NCO verifies implementation of proper convoy procedures • NCO facilitates learning by tolerating failure and giving timely feedback • NCO evaluates performance measures IAW ARTEP standards • NCO provides feedback on Soldier performance during AARs • Soldiers perform convoy procedures to standard during training • Squad/section performs to standard in training exercises • Soldiers adjust procedures according to tactical conditions
	Counter Sniper Operations	<ul style="list-style-type: none"> • NCO incorporates counter sniper tasks and procedures into training plans • NCO explains counter sniper TTP to Soldiers and fellow NCOs • NCO coaches Soldiers in counter sniper TTP • NCO adjusts procedures according to tactical conditions • NCO shares operational experiences with Soldiers • NCO answers Soldiers' questions in accurate and timely fashion • NCO IDs authoritative sources of information on counter sniper TTP • NCO verifies implementation of proper counter sniper procedures • NCO facilitates learning by tolerating failure and giving timely feedback • NCO evaluates performance measures IAW Soldier task standards • NCO provides feedback on Soldier performance during AARs • Soldiers perform counter-sniper procedures to standard during training • Squad/section performs to standard in training exercises • Soldiers adjust procedures according to tactical conditions

Module	Subject	Behavioral Outcomes
	Detainee Operations	<ul style="list-style-type: none"> • NCO incorporates detainee procedures into training plans • NCO explains detainee operations to Soldiers and fellow NCOs • NCO coaches Soldiers in proper detainee processing and detention • NCO shares operational experiences with Soldiers • NCO answers Soldiers' questions in accurate and timely fashion • NCO IDs authoritative sources of information on detainee procedures • NCO verifies implementation of proper detainee procedures • NCO facilitates learning by tolerating failure and giving timely feedback • NCO evaluates performance measures IAW Soldier task standards • NCO provides feedback on Soldier performance during AARs • Soldiers perform detainee procedures to standard during training • Squad/section performs to standard in training exercises • Soldiers adjust procedures according to tactical conditions

* Small arms proficiency training focuses on machine guns and range operations; includes controlling platoon fires.

** Infantry Battle Drills include actions on contact, road block, check point operations.

APPENDIX C

Behavioral Taxonomy

Category	Representative Behaviors
<i>Warfighting Proficiency</i>	
System Proficiency	<ul style="list-style-type: none"> • Placing weapon into operation correctly and fully • Executing proper steps to clear weapon • Initializing and operating FBCB2 device correctly • Executing proper steps during training exercises • Performing or facilitating system troubleshooting • Identifying authoritative sources of information on FBCB2
Warrior Proficiency	<ul style="list-style-type: none"> • Performing land navigation to Soldier task standards • Performing combative techniques to standard in practice • Achieving acceptable scores on weapons qualification tests • Maintaining battle gear under diverse weather conditions
Tactical Proficiency	<ul style="list-style-type: none"> • Performing forward observer procedures correctly • Implementing TLP to achieve mission goals in exercises • Identifying authoritative sources of TTP
Collective Proficiency	<ul style="list-style-type: none"> • Soldiers executing proper land navigation procedures • Soldiers executing proper maintenance procedures • Soldiers adjusting procedures according to tactical conditions • Squads/sections/crews performing to standard in training • Squads/sections/crews achieving proficiency in collective tasks during home station training • Squads/sections/crews achieving proficiency in collective tasks during CTC training
<i>Leadership</i>	
Direct Leadership	<ul style="list-style-type: none"> • Verifying Soldiers understand their duties/responsibilities • Giving proper commands to Soldiers while training • Supervising execution of Soldiers' maintenance activities • Verifying application of proper maintenance procedures • Briefing OPORD to squad members in training exercises • Managing time to meet mission milestones during exercises
Adaptive Thinking	<ul style="list-style-type: none"> • Adjusting task execution according to exercise conditions • Adjusting training plans to meet changing conditions • Adjusting training execution to handle weather contingencies
Knowledge Sharing	<ul style="list-style-type: none"> • Sharing FBCB2 knowledge/experiences during exercises • Sharing combative experiences during practice sessions • Answering Soldiers' questions about Infantry initiatives

Category	Representative Behaviors
Custodianship (Personnel, Equipment, Supplies)	<ul style="list-style-type: none"> • Implementing end-of-training recovery plan at ranges • Following vehicle maintenance SOP, incl documentation • Maintaining or providing input to unit maintenance schedule • Conducting inspections as part of unit readiness program • Taking corrective actions to solve maintenance problems • Following proper procedures for property accountability • Ensuring accuracy of Soldiers' personnel records
Self-Development	<ul style="list-style-type: none"> • Describing own efforts to stay abreast of Infantry initiatives • Staying aware of changes in maintenance requirements • Working to improve TLP skills based on AAR feedback • Seeking mentoring from Platoon Sergeant • Assisting or standing in for Platoon Sergeant
<i>Training</i>	
Teaching and Instructing	<ul style="list-style-type: none"> • Explaining vehicle maintenance procedures to Soldiers • Answering Soldiers' questions accurately and promptly • Facilitating learning by tolerating failure of squad members • Facilitating learning by correcting Soldiers on the spot
Coaching and Mentoring	<ul style="list-style-type: none"> • Coaching Soldiers in land navigation procedures and skills • Coaching Soldiers in forward observer procedures • Demonstrating tactical site exploitation procedures • Demonstrating tactical questioning techniques to Soldiers • Mentoring new NCOs on operator maintenance duties
Training Management (Planning, Preparing)	<ul style="list-style-type: none"> • Developing weapon training plan IAW 8-step training strategy • Incorporating tactical questioning into training plans • Realistically incorporating new equipment into tng plans • Identifying hazards/risks and appropriate control measures • Requesting all resources required to implement tng plan • Verifying all resources are in place prior to training
Training Operations (Executing, Directing, Controlling)	<ul style="list-style-type: none"> • Implementing training execution plan on time • Confirming proper setup of FBCB2 and Tactical Internet • Verifying Soldiers follow FBCB2 procedures of TACSOP • Managing time so all Soldiers participate in training • Implementing control measures to minimize hazards/risks
Training Evaluation (Measuring Performance, Providing Feedback)	<ul style="list-style-type: none"> • Evaluating performance measures IAW ARTEP T&EO • Measuring performance IAW Soldier task standards • Conducting AARs that cover all basic elements • Providing feedback on FO performance during AARs • Including digital performance aspects in AAR discussions

APPENDIX D

NCO Competence Indicators

Category	Indicators
Leadership Behavior	<ul style="list-style-type: none"> • Monitoring the morale, discipline, and health of assigned Soldiers • Developing subordinates through coaching, mentoring, and counseling • Receiving respect from superiors, peers, and subordinates • Receiving requests for advice and knowledge from superiors & peers • Guiding Soldiers by example and effective role modeling • Fostering teamwork and cohesion among subordinates and peers • Displaying strong moral character and Warrior spirit
Job Performance	<ul style="list-style-type: none"> • Holding significant duty positions of progressively greater responsibility • Performing additional duties in timely and effective manner • Communicating orders clearly, correctly (per doctrine), and completely • Assigning tasks to subordinates in accordance with the unit mission • Communicating clear guidance to subordinates re: task performance • Maintaining proper accountability and accurate awareness of all personnel, equipment, and supplies • Taking action to report and resolve problems/deficiencies with personnel, equipment, and supplies • Supervising proper maintenance of all assigned equipment • Demonstrating technical and tactical competence on all assigned combat systems (weapons, vehicles, FCB2, etc.) and TADSS • Demonstrating tactical competence in executing squad/section formations, movements, actions, and security • Demonstrating doctrinal proficiency on squad and team battle drills • Demonstrating tactical and leadership competence during operations • Adjusting or adapting TTP to align with METT-TC and TACSOP • Planning, preparing, executing, and evaluating the training of Skill Level 1-2-3 tasks (individual and Common)
Unit Readiness	<ul style="list-style-type: none"> • Maintaining required manning and qualification levels for squad/team/crew (USR, within available resources and unit priorities) • Correctly reporting acceptable status of all assigned equipment (USR R-level, given availability of parts and maintenance support) • Correctly reporting acceptable training status of Skill Level 1-2-3 tasks (individual and Common) • Achieving acceptable doctrinal proficiency (fully trained or partially trained) of subordinate elements in all collective tasks • Achieving acceptable doctrinal proficiency of subordinate elements in all CTC evaluations

Primary Sources: (1) FM 3-21.8, *The Infantry Rifle Platoon and Squad*; (2) FM 7-22.7, *The Army NCO Guide*; (3) DA Pamphlet 600-25, *US Army Noncommissioned Officer Professional Development Guide*; (4) FM 6-22, *Army Leadership—Competent, Confident, and Agile*; (5) AR 220-1, *Unit Status Reporting*.

APPENDIX E

Final Package of ALC Impact Metrics

Data Collection Codes:

Data Source	Collection Technique (final letter of code)
N = NCOs (participants)	R = Ratings (self-anchored, other-anchored)
L = Leaders ^a	W = Write-in (on questionnaire)
P = Peers ^b	F = Focus group comments
PS = Platoon Sergeants	
UR = Unit Records ^c	

^a Leaders can be Plt Sgts, Plt Ldrs, Co 1SGs, Co Cdrs

^b Peers will be other squad leaders within NCO's company

^c Unit records may include routine testing records, training records, personnel reports, etc.

Examples:

- NF = NCO focus group comments
- PSW = platoon sergeant write-in on questionnaire
- PR = peer ratings

Measure	Data Elements [Data Collection Codes]	Sources
<i>Critical and Creative Thinker</i>		
NCO adjusts and executes TTP according to tactical conditions (METT-TC)	<ul style="list-style-type: none"> • Ratings of extent of ALC practice in executing TTP adaptively [NR] • Ratings of extent to which ALC learning transfers to adjusting TTP or TSOP [NR] • Ratings of ALC impact on NCO's adaptive execution of TTP or TSOP [NR, LR, PR] • Comments re: ALC impact on NCO's adaptation to varying conditions [NW, NF, LW, LF, PW, PF] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers
NCO manages time to meet mission milestones during operations	<ul style="list-style-type: none"> • Ratings of extent to which ALC events provide practice on managing time [NR] • Ratings of extent to which ALC learning transfers to managing time [NR] • Ratings of ALC impact on NCO's accomplishment of mission milestones on time [NR, LR, PR] • Comments re: ALC impact on NCO's time management [NW, NF, LW, LF, PW, PF] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers

Measure	Data Elements [Data Collection Codes]	Sources
NCO anticipates and plans for the unexpected by thinking ahead	<ul style="list-style-type: none"> • Ratings of extent to which ALC events provide practice in thinking and planning ahead [NR] • Ratings of extent to which ALC learning transfers to planning for the unexpected [NR] • Ratings of ALC impact on NCO's (1) planning for the unexpected and (2) handling unexpected events [NR, LR, PR] • Comments re: ALC impact on NCO's thinking ahead and handling unexpected events [NW, NF, LW, LF, PW, PF] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers
NCO formulates lessons learned based on own and unit experiences	<ul style="list-style-type: none"> • Ratings of extent to which ALC trains NCOs to figure out lessons learned [NR] • Ratings of ALC's positive impact on NCO's contributions to unit lessons learned [LR, PR] • Estimates of opportunities to derive lessons learned [LW, LF] • Examples of lessons learned [NW, NF] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers
NCO realistically incorporates new equipment and TTP into unit operations	<ul style="list-style-type: none"> • Ratings of ALC's positive impact on NCO's ability to incorporate new equipment and TTP into unit operations [LR, PR] • List of new equipment and TTP received [LW, LF] • Examples of accomplishments incorporating new equipment/TTP into unit operations [NW, NF] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers
Warrior Leader – Military Leadership		
NCO fosters teamwork and positive climate within the squad	<ul style="list-style-type: none"> • Ratings of squad's improvement in (1) teamwork, (2) morale, (3) cohesion, and (4) unit climate due to skills developed in ALC [NR, LR, PR] • Ratings of squad's decrease in (1) absenteeism, (2) turnover, and (3) disciplinary actions due to skills from ALC [NR, LR] • Examples (positive & negative) re: teamwork and climate within the squad [NW, NF] • Adverse personnel incidents (AWOL, UCMJ actions, etc.) [UR] • Siebold & Kelly's (1988) plt cohesion survey (selected items?) • ARI's <i>Command Climate Survey</i> for TO&E units (selected items?) 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers • Unit Records
Subordinates understand their everyday duties and responsibilities	<ul style="list-style-type: none"> • Ratings of improvement in subordinates' job understanding due to NCO skills learned in ALC [NR] • Ratings of improvement needed in subordinates' job understanding [NR] • Examples (positive & negative) of subordinates' job understanding [NW, NF] 	<ul style="list-style-type: none"> • NCOs
NCO communicates clear guidance to subordinates re: task performance	<ul style="list-style-type: none"> • Ratings of ALC-attributed improvement in NCO's ability to give subordinates clear guidance re: task performance [NR, LR, PR] • Ratings of improvement needed re: NCO guidance on task performance provided to subordinates [NR] • Examples (positive & negative) of NCO guidance to subordinates [NW, NF] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers
NCO conveys mission orders to Soldiers clearly, correctly, and completely	<ul style="list-style-type: none"> • Ratings of ALC-attributed improvement in NCO's ability to convey orders to subordinates [NR, LR, PR] • Ratings of improvement needed in NCO's process of conveying orders [NR] • Examples (positive & negative) of clear/unclear orders [NF, LF, PF] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers

Measure	Data Elements [Data Collection Codes]	Sources
NCO ensures subordinates treat others with respect, including local citizens	<ul style="list-style-type: none"> • Ratings of ALC-attributed improvement in respect shown by NCO's subordinates [NR, LR, PR] • Ratings of subordinates' respect for (1) each other, (2) Family members, and (3) community members [NR] • Examples (positive & negative) of respect shown by squad members [NF] • Adverse incidents related to lack of respect (UCMJ actions, etc.) 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers • Unit Records
Warrior Leader – Warrior Competencies		
NCO applies proper TTP in executing collective tasks and battle drills	<ul style="list-style-type: none"> • Ratings of extent to which ALC events provide practice on implementing TTP [NR] • Ratings of improvement in NCO's knowledge of doctrine and TTP resulting from ALC learning [NR, LR, PR] • Ratings of ALC-attributed improvement in NCO's application of TTP/TSOP during (1) battle drills and (2) collective tasks [NR, LR, PR] • Comments re: ALC impact on NCO's implementation of TTP [NW, NF, LW, LF, PW, PF] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers
NCO properly employs all assigned and available equipment (weapons, radios, computers, vehicles, etc.)	<ul style="list-style-type: none"> • Ratings of extent to which ALC events provide practice in employing equipment [NR] • Ratings of ALC-attributed improvement in NCO's ability to select proper weapon(s) for a given mission [NR, LR, PR] • Ratings of ALC-attributed improvement in NCO's ability to employ assigned (1) weapons, (2) radios, (3) vehicles, (4) battle command systems, (5) special mission equipment, and (6) individual equipment [NR, LR, PR] • Comments re: ALC impact on NCO's (1) knowledge and (2) employment of assigned and available equipment [NW, NF, LW, LF, PW, PF] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers
NCO achieves acceptable level of proficiency for individual tasks/skills (e.g., APFT, weapons qualification, radio and computer operations)	<ul style="list-style-type: none"> • Ratings of extent to which ALC provides practice on (1) physical fitness, (2) weapons qualification, (3) radio operations, (4) other Warrior Tasks, and (5) ABCS operations [NR] • Ratings of extent to which ALC improved NCO's Warrior competencies [NR, LR, PR] • Comments re: ALC impact on NCO's level of Warrior Task proficiency [NW, NF, LW, LF, PW, PF] • NCO scores (post-ALC) on APFT and weapons qualification 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers • Unit Records
Leader Developer – Counseling, Coaching and Mentoring		
NCO answers Soldiers' questions and shares knowledge and experiences	<ul style="list-style-type: none"> • Ratings of ALC-attributed improvement in ability to answer Soldiers' questions [NR] • Ratings of ALC impact on NCO's sharing of knowledge and experiences [NR, LR, PR] • Ratings of quality and quantity of information, knowledge and answers provided to subordinates by NCO [NR] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers
NCO guides and develops subordinates by coaching, mentoring, counseling and role modeling	<ul style="list-style-type: none"> • Ratings of ALC-attributed improvement in NCO's coaching/mentoring/counseling/role modeling [NR, LR, PR] • Ratings of subordinates' positive feedback re: coaching/mentoring/counseling provided by NCO [NR] • Positive examples of NCO's coaching/mentoring/counseling/role modeling [NF, LF, PF] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers

Measure	Data Elements [Data Collection Codes]	Sources
NCO reinforces ethical standards of behavior among subordinates	<ul style="list-style-type: none"> • Ratings of extent to which ALC provides training on ethical standards [NR] • Ratings of ALC-attributed improvement in NCO's ability to promote ethical behavior among subordinates [NR, LR] • Ratings of ALC's positive impact on ethical behavior within NCO's squad [LR, PR] • Ratings of subordinates' positive feedback re: ethical behavior within squad [NR] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers
Leader Developer – Training Subordinates		
NCO develops, prepares, and executes realistic training plans for Skill Level 1-2-3 tasks (individual and Common)	<ul style="list-style-type: none"> • Ratings of extent of ALC practice in (1) developing, (2) preparing, and (3) executing realistic squad training [NR] • Ratings of ALC-related improvement in NCO's ability to develop/prepare/execute realistic squad training [NR, LR, PR] • Comments re: ALC impact on NCO's development/preparation/execution of squad training [NW, NF, LW, LF, PW, PF] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers
NCO manages training activities to optimize participation and safety	<ul style="list-style-type: none"> • NCO ratings of extent to which ALC provides practice in managing training activities [NR] • Ratings of ALC-attributed improvement in squad training activities re: (1) effectiveness, (2) Soldier participation, and (3) safety [NR, LR, PR] • Ratings of subordinates' positive feedback re: successful and effective training [NR] • Comments re: ALC impact on NCO's management of squad training activities [NW, NF, LW, LF, PF] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers
NCO explains/demonstrates Soldier tasks	<ul style="list-style-type: none"> • Ratings of extent to which ALC provides practice in explaining and demonstrating Soldier tasks [NR] • Ratings of ALC-attributed improvement in NCO's ability to explain/demonstrate Soldier tasks [NR, LR, PR] • Ratings of subordinates' positive feedback re: NCO's explanation and demonstration of Soldier tasks [NR] • Comments re: ALC impact on NCO's explanation and demonstration of Soldier tasks [NW, NF, LW, LF, PF] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers
NCO properly evaluates performance of subordinate Soldiers on individual and Common Tasks, and provides constructive feedback	<ul style="list-style-type: none"> • Ratings of extent to which ALC provides practice in (1) evaluating Soldier performance and (2) providing feedback [NR] • Ratings of ALC-attributed improvement in NCO's ability to (1) properly evaluate Soldier performance and (2) provide constructive feedback [NR, LR, PR] • Comments re: ALC impact on NCO's ability to evaluate Soldier performance and provide feedback [NW, NF, LW, LF, PF] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers
NCO utilizes TADSS appropriately for training	<ul style="list-style-type: none"> • Ratings of extent to which ALC provides opportunities to employ relevant TADSS [NR] • Ratings of ALC-attributed improvement in NCO's ability to utilize TADSS appropriately and effectively [NR, LR, PR] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers
Leader Developer – Shaping Unit Performance		
Soldiers perform individual and Common Tasks to standard	<ul style="list-style-type: none"> • Ratings of squad's improvement in individual and Common Task performance due to skills NCO learned in ALC [NR, LR, PR] • Ratings of positive feedback from superiors and peers re: ALC-attributed improvement of squad's task performance [NR] • Comments re: ALC impact on squad's performance of individual and Common Tasks [NW, NF, LW, LF, PF] • Subordinates' scores on individual and Common Task tests [UR] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers • Unit Records

Measure	Data Elements [Data Collection Codes]	Sources
Squad/section/team executes collective tasks and battle drills to standard	<ul style="list-style-type: none"> • Ratings of squad's improvement in collective task and battle drill performance due to skills NCO learned in ALC [NR, LR, PR] • NCO ratings of positive feedback from superiors and peers re: ALC-attributed improvement of squad's collective task and battle drill performance [NR] • Comments re: ALC impact on squad's performance of collective tasks and battle drills [NW, NF, LW, LF, PF] • Subordinates' scores on collective tasks and Battle Drills [UR] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers • Unit Records
Soldiers achieve acceptable APFT and weapons qualification scores	<ul style="list-style-type: none"> • Ratings of squad's improvement in (1) APFT and (2) weapons qualification performance due to skills NCO learned in ALC [NR, LR, PR] • NCO ratings of positive feedback from superiors and peers re: ALC-attributed improvement of Soldiers' performance in (1) APFT and (2) weapons qualification events [NR] • Comments re: ALC impact on squad's performance in APFT and weapons qualification events [NW, NF, LW, LF, PF] • Subordinates' scores on APFT and weapons qualification [UR] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers • Unit Records
Soldiers properly employ assigned equipment (weapons, radios, computers, vehicles, etc.)	<ul style="list-style-type: none"> • Ratings of ALC-attributed improvement in squad's employment of assigned (1) weapons, (2) radios, (3) vehicles, (4) battle command systems, (5) special mission equipment, and (6) individual equipment [NR, LR, PR] • Comments re: ALC impact on squad's (1) knowledge and (2) employment of assigned equipment [NF, LF, PF] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers
Leader Developer – Expanding Own Competencies		
NCO works to improve technical, tactical, and leadership skills based on supervisor guidance/counseling and AAR feedback	<ul style="list-style-type: none"> • Ratings of self-development skills learned in ALC [NR] • Ratings of ALC-influenced ability to improve professional skills – (1) tactical, (2) leadership, and (3) technical [NR] • Ratings of ALC impact on NCO's professional development activities [NR, LR, PR] • Ratings of positive feedback from superiors and peers re: ALC-attributed improvement in NCO's professional skills – (1) tactical, (2) leadership, and (3) technical [NR] • Listing of professional development activities since ALC [NW] • Comments re: ALC impact on NCO's professional development goals and activities [NW, NF, LW, LF, PF] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers
NCO seeks mentoring from Platoon Sergeant	<ul style="list-style-type: none"> • Ratings of ALC-influenced decision(s) to seek Platoon Sergeant's mentoring [NR] • Listing of mentoring activities [NW, PSW] • Ratings of ALC impact on NCO's openness to mentoring [PSR] • Comments re: ALC impact on NCO's efforts to seek mentoring [NW, NF, PSW, PSF] 	<ul style="list-style-type: none"> • NCOs • Plt Sgts
NCO leads and/or participates in professional development sessions	<ul style="list-style-type: none"> • Ratings of ALC-influenced decision(s) to lead or participate in unit professional development sessions [NR] • Ratings of ALC impact on NCO's efforts to lead or participate in unit professional development sessions [NR, PSR, LR, PR] • Listing of unit professional development sessions in which NCO led or participated [NW, NF, PSF] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers

Measure	Data Elements [Data Collection Codes]	Sources
NCO assists or stands in for Platoon Sergeant	<ul style="list-style-type: none"> • Ratings of ALC-influenced decision(s) to learn by (1) assisting or (2) standing in for Plt Sgt [NR] • Ratings of ALC impact on NCO's efforts to assist or stand in for Platoon Sergeant [NR, PSR] • Listing of NCO's efforts to assist or stand in for Plt Sgt [NW, PSW] 	<ul style="list-style-type: none"> • NCOs • Plt Sgts
Ambassador – All Environments		
Soldiers show respect for social/cultural standards of the local community	<ul style="list-style-type: none"> • Ratings of extent to which ALC provides training on cultural/ community respect [NR] • Ratings of ALC-attributed improvement in NCO's ability to promote cultural/community respect among subordinates [NR] • Ratings of squad's improvement in respect shown toward local community due to skills NCO learned in ALC [NR, LR, PR] • NCO ratings of positive feedback from subordinates, superiors and peers re: ALC-attributed improvement of squad's social/ cultural respect [NR] • Comments re: ALC impact on squad's respect shown toward local community [NF] • Examples (positive & negative) of squad's respect shown toward local community [NF] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers
NCO ensures subordinates represent Army well among non-Army elements and local community	<ul style="list-style-type: none"> • Ratings of subordinates' improvement as Army representatives among local community due to NCO's learning in ALC [NR, LR, PR] • Ratings of positive feedback from subordinates, superiors and peers re: ALC-attributed improvement of squad's positive impact on local community [NR] • Comments re: ALC influence on squad's positive impact on local community [NF, LF, PF] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers
NCO establishes and maintains contact with non-Army colleagues and community leaders	<ul style="list-style-type: none"> • Ratings of relevance of ALC training to networking with (1) colleagues in other services and (2) community leaders [NR] • Ratings of ALC-influenced decisions/efforts to network with (1) colleagues in other services and (2) community leaders [NR, LR, PR] • Ratings of positive feedback from superiors and peers re: ALC-attributed improvement in NCO's interactions with (1) colleagues in other services and (2) community leaders [NR] • Listing of NCO contacts with (1) colleagues in other services and (2) community leaders [NW] • Comments re: ALC influence on NCO's external networking [NF, LF, PF] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers
NCO leads and/or participates in joint, unified, and community engagement activities	<ul style="list-style-type: none"> • Ratings of extent to which ALC training/events involve joint, unified, and community aspects [NR] • Ratings of ALC-influenced decisions/efforts by NCO to lead or participate in multi-agency activities – (1) joint, (2) unified, and (3) local community [NR, PSR, LR, PR] • Listing of activities/events in which NCO led or participated – (1) joint, (2) unified, and (3) local community [NW, PSF] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers • Plt Sgts

Measure	Data Elements [Data Collection Codes]	Sources
<i>Ambassador – Operational Environment</i>		
NCO develops and applies cultural awareness in combat operations	<ul style="list-style-type: none"> • Ratings of extent to which ALC training/events enhance cultural awareness [NR] • Ratings of ALC-attributed improvement in NCO's cultural awareness and understanding [NR, LR, PR] • Ratings of ALC-attributed improvement in NCO's application of cultural knowledge in combat operations [NR, LR, PR] • Comments re: ALC impact on NCO's understanding and application of cultural awareness [NF, LF, PF] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers
NCO incorporates community impact into planning and leading combat operations	<ul style="list-style-type: none"> • Ratings of extent to which ALC provides practice in considering community impact while planning/leading combat ops [NR] • Ratings of ALC-attributed improvement in NCO's understanding and accounting for community factors in planning/ executing combat operations [NR, LR, PR] • Comments re: ALC influence on NCO's consideration of community factors in combat operations [NF, LF, PF] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers
<i>Resource Manager</i>		
NCO maintains awareness of and proper accountability for all personnel, equipment, and supplies	<ul style="list-style-type: none"> • Ratings of extent to which ALC trains NCOs to manage unit resources [NR] • Ratings of ALC-attributed improvement in NCO's control and mgmt of (1) personnel, (2) equipment, (3) supplies [NR, LR] • Ratings of ALC-attributed improvement in NCO's accounting and reporting re: (1) personnel, (2) equipment, and (3) supplies [NR, LR] • Comments re: ALC influence on NCO's management of resources assigned to the squad [NW, NF, LW, LF] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders
NCO takes action to report and resolve problems/deficiencies with personnel, equipment, and supplies	<ul style="list-style-type: none"> • Ratings of extent to which ALC training events involve practice on solving resource problems [NR] • Ratings of ALC-attributed improvement in NCO's identification and solution of problems with (1) personnel, (2) equipment, and (3) supplies [NR, LR] • Ratings of positive feedback from superiors re: ALC-attributed improvement in status of (1) personnel, (2) equipment, and (3) supplies in NCO's squad [NR] • Comments re: ALC influence on NCO's performance in resolving problems/deficiencies with resources [NF, LF] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders
NCO ensures all assigned equipment is maintained properly	<ul style="list-style-type: none"> • Ratings of extent to which ALC training events involve practice on managing equipment maintenance [NR] • Ratings of ALC-attributed improvement in NCO's management of equipment maintenance activities [NR, LR] • Ratings of positive feedback from superiors re: ALC-attributed improvement of equipment maintenance in NCO's squad [NR] • Comments re: ALC impact on NCO's management of equipment maintenance activities [NW, NF, LW, LF] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders
Soldiers execute and document proper maintenance procedures	<ul style="list-style-type: none"> • Ratings of ALC-attributed improvement in NCO's supervision of subordinates' execution and documentation of maintenance duties [NR, LR] • Ratings of ALC-attributed improvement in documentation of equipment maintenance in NCO's squad [LR] • Ratings of positive feedback from superiors re: ALC-attributed improvement in documentation of equipment maintenance in NCO's squad [NR] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders

Measure	Data Elements [Data Collection Codes]	Sources
Global Impact		
NCO's overall abilities and performance improve as a result of ALC	<ul style="list-style-type: none"> • Ratings of overall relevance of ALC training to NCO's job performance in the unit [NR] • Ratings of ALC-attributed improvement in NCO's overall (1) tactical skills, (2) leadership skills, (3) technical skills, (4) people skills, (5) attitudes, and (5) motivation [NR, LR, PR] • Ratings of ALC-attributed improvement in NCO's overall (1) behavior, (2) effectiveness, (3) productivity, and (4) efficiency [NR, LR, PR] • Ratings of ALC-attributed improvement in NCO's (1) work habits, (2) performance, and (3) unit contributions [NR, LR, PR] • Ratings of ALC-attributed increase in (1) appreciation of NCO importance, (2) commitment to Army goals, and (3) personal identification with the Army [NR] • Ratings of ALC-related improvement in NCO's (1) performance as a squad leader, (2) abilities as a trainer, and (3) task performance [NR, PSR] • Ratings of extent to which skills learned in ALC transfer to job performance (1) at home station and (2) while deployed [NR] • Ratings of positive feedback from superiors, peers, and subordinates re: ALC impact on own (1) competencies, (2) work habits, (3) performance, and (4) contributions to the unit [NR] • Comments re: ALC impact on NCO's competencies, work habits, commitment, motivation, and performance [NW, LW, PW] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers
NCO's contributions to the unit increase as a result of ALC training	<ul style="list-style-type: none"> • Ratings of ALC's positive impact on NCO's standing in the eyes of (1) unit leaders, (2) unit peers, and (3) subordinates [NR, LR, PR] • Ratings of positive feedback from superiors, peers, and subordinates re: ALC benefits to NCO [NR] • Ratings of ALC's positive impact on NCO's contributions to the unit [NR, LR, PR] • Comments on ALC benefits to NCO [NW, NF] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers
NCO uses ALC learning to improve conditions in the unit	<ul style="list-style-type: none"> • Ratings of extent to which ALC learning enables NCO to improve unit training and operations [NR, LR, PR] • Ratings of extent to which "soft skills" learned in ALC (such as people skills) help NCO to improve unit training and ops [NR] • Ratings of extent to which the unit environment (1) allows and (2) encourages NCO to apply knowledge and skills learned in ALC [NR] • Ratings of extent to which NCO is recognized for using skills learned in ALC within the unit [NR, PSR] • Ratings of extent to which unit leaders view ALC training as a positive factor in unit operations [NR] • Ratings of extent to which unit leaders view time NCOs spend in ALC as time well spent [NR] • Ratings of extent to which ALC enables NCO to become a more effective agent of change within the unit [NR, LR, PR] • Ratings of extent to which NCO had to overcome obstacles to apply ALC learning within the unit [NR, PR] • Comments on NCO efforts to improve unit training and operations by applying ALC learning [NF, LF, PF] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers

Measure	Data Elements [Data Collection Codes]	Sources
Squad's overall performance improves due to NCO's learning in ALC	<ul style="list-style-type: none"> • Ratings of ALC's positive impact on squad's (1) drive for excellence, (2) productivity, and (3) effectiveness [NR, PSR, LR] • Ratings of ALC's positive impact on squad's standing in the eyes of (1) unit leaders, (2) unit peers, and (3) subordinates [NR] • Ratings of ALC's positive impact on squad's (1) overall performance and (2) contributions to the unit [NR, LR, PR] • Ratings of positive feedback from superiors, peers, and subordinates re: ALC benefits to squad [NR] • Squad and platoon performance ratings by CTC O/Cs [UR] • Comments on ALC benefits to squad [NW, NF, LW, LF, PF] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers • CTC Take-Home Pkgs
Unit conditions influence NCOs' application of ALC learning	<ul style="list-style-type: none"> • Ratings of time available to (1) utilize knowledge/skills learned in ALC and (2) change the way things are done [NR, PR] • Ratings of opportunities to (1) utilize knowledge/skills learned in ALC and (2) change the way things are done [NR, PR] • Ratings of extent to which other requirements take priority over applying ALC knowledge and skills [NR, PR] • Ratings of extent to which unit workload allows NCO to use knowledge and skills learned in ALC [NR, PR] • Ratings of extent to which certain ALC-acquired knowledge and skills don't apply to (1) NCO's job performance and (2) deployment requirements [NR, LR, PR] • Ratings of extent to which NCO is allowed to use ALC-acquired knowledge/skills to change unit training and operations [NR, PR] • Ratings of extent to which NCO is encouraged to use ALC-acquired learning to change the way things are done [NR, PR] • Ratings of extent to which NCO is sure it is OK to (1) use certain ALC-acquired knowledge/skills or (2) change unit procedures [NR, PR] • Ratings of extent to which NCO has been told not to (1) use certain ALC-acquired knowledge/skills or (2) change unit procedures [NR, PR] • Ratings of extent to which NCO's supervisor thinks it is effective to use ALC-acquired knowledge and skills [NR, PR] • Ratings of extent to which certain techniques or procedures learned in ALC are different from the unit's SOP [NR, PR] • Comments on ALC benefits to NCO [NW, NF] 	<ul style="list-style-type: none"> • NCOs • Unit Leaders • Unit Peers

APPENDIX F

Evaluation Design Plan

**INFANTRY ALC TRAINING TRANSFER
EVALUATION DESIGN PLAN**

FINAL

20 Mar 09

1

PURPOSE

This document:

- Provides the blueprint for ARI's evaluation of 11B ALC impact
- Lays out comprehensive evaluation goals and objectives
- Outlines the design, technical approach, and sampling strategy
- Establishes a systematic measurement strategy and framework
- Considers parameters for building a data collection timeline

2

BACKGROUND

- The POI for Infantry ALC Phase II (resident) is changing
- The POI has new focus, revamped contents, shorter duration
- The transitional POI is expected to lock-in by June 2009
- The schoolhouse needs effectiveness data for program decisions
- The evaluation will focus on ALC impact in operational units
- Early work identified key behaviors and developed impact metrics
- Evaluation planning addressed design, sampling, methods, tools, etc.
- Impact metrics are populating data collection instruments
- Data collection, analysis and documentation are slated for FY10

3

EVALUATION GOALS

- Purpose:
 - Inform schoolhouse on effectiveness of new 11B ALC Phase II
 - Support decisions re: revision and implementation of new POI
- Goals:
 - Provide course architects and managers a view of ALC's practical impact
 - Give FORSCOM units a means of communicating, sharing, and influencing
 - Illuminate issues re: contents and implementation of 11B ALC POI
 - Capture unit stakeholders' suggestions for improving the POI
 - Arm curriculum managers with empirical data to justify program decisions
 - Validate 11B ALC revision as part of NCOES modernization strategy
 - Promote utilization of 11B ALC learning among operational units
 - Raise awareness of ALC benefits and payoff among FORSCOM leaders
 - Pave the way for continuing program evaluation

4

EVALUATION OBJECTIVES

- Assess frequency and relevance of Phase II training opportunities
- Measure improvement in proficiency on Infantry NCO competencies
- Quantify NCO learning re: knowledge, skills, and attributes (KSAs)
- Examine NCO perceptions of 11B ALC Phase II transfer
- Quantify NCO opportunities to apply ALC learning in unit
- Determine 11B ALC Phase II impact on:
 - NCO behaviors, performance, contributions, and standing within unit
 - Squad processes, performance, contributions, and standing within unit
 - Unit training, operations and environment (company and below)
- Examine role of biographical variables in ALC transfer
- Explore unit factors that promote application of ALC learning
- Identify Infantry ALC benefits to NCOs and their units
- Document ideas for improving the 11B ALC Phase II POI
- Generate recommendations for continuing data collection

5

EVALUATION DESIGN

- **Hypothesis:** New 11B POI improves ALC impact in tactical units
- **New POI defined:** final ALC POI, post-pilot (Jun 09 and beyond)
- **Paradigm:** multi-source sampling (participants + associates), unit focus
 - Limited longitudinal data collection with new POI *participants*
 - Snapshot third-party measurement with informed *associates*
- **Participants:** 11B ALC students/graduates + known associates
 - Students/graduates of schoolhouse courses + linked unit personnel
 - Students/graduates of MTT courses + linked unit personnel
- **Evaluation arena:** Active Component units only
- **Geographic limits:** CONUS (installations with Infantry Battalions)
- **Measurement focus:** transfer of ALC learning to job performance
- **Incubation parameters:**
 - Post-graduation time to apply ALC learning = 5-6 mos desired, 2 mos minimum
 - Pre- + post-ALC acquaintanceship for *associates* = 3-4 mos desired, 2 mos min
- **Data collection environment:** supervised sessions in school and unit

6

EVALUATION APPROACH

- Target three-part population (CONUS-based):
 - NCOs who graduate from new 11B Phase II POI - *schoolhouse*
 - NCOs who graduate from new 11B Phase II POI - *MTT*
 - Unit leaders + peers who know NCOs before & after ALC – *associates*
- Use survey, focus group, SJT, and records mining methods
- Build multiple perspectives and redundancy into data collection
- Expect focus on ALC impact to reduce self-rating inflation
- Enforce minimum requirements for incubation parameters
- Orchestrate data collection schedule to minimize number of site visits
- Organize research SMEs into teams for on-site data collection
- Seek command emphasis (NCOA, FORSCOM) to ensure participation
- Standardize data collection by means of Data Collector's Guide
- Use post-graduation elapsed time as covariate or sorting variable
- Analyze data for impact of new POI and intervening variables

7

SAMPLING STRATEGY

- Establish criterion-based sample selection process:
 - Select *schoolhouse* participants from 2 classes based on deployment date
 - Select *MTT* participants from 3 scheduled units in ARFORGEN reset phase
 - Define *associates* as participant-known leaders and peers
- Limit *participants* to NCOs assigned to units 6+ months from deploying
- Enrol all eligible *participants* in each selected class
- Limit *associates* to 1 leader and 1 peer per participant
- Identify pool of *associates* to satisfy sample size goals
- Limit sampling footprint to units at primary CONUS installations
- Spread schoolhouse & MTT samples among light, heavy, & Stryker BCTs
- Set reality-based sample size goals:
 - *Schoolhouse* sample (final) = 250 participants (2 classes x 75%, minus attrition)
 - *MTT* sample (final) = 250 participants (3 classes x 90%, minus attrition)
 - *Associate* samples (final) = 500 (*schoolhouse*) + 500 (*MTT*) = 1000 total
- Assume modest attrition after 6 mos (*schoolhouse* = 20%, *MTT* = 10%)
- Include entire class in start-of-course and end-of-course surveys

8

CRITICAL ASSUMPTIONS

- Only the Phase II POI for Infantry ALC is changing
- The new POI will remain stable for at least 12 months
- The *schoolhouse* and *MTT* courses are functionally equivalent
- *Schoolhouse* classes of ~200 students will start every 5-6 weeks
- At least 3 *MTT* classes of 80-120 students each will occur per quarter
- At least 75% of *schoolhouse* graduates will return to CONUS units
- A Co- or Plt-level leader can assess *schoolhouse* + *MTT* participants
- Sufficient *associates* will have pre- + post-ALC acquaintanceship
- Participating units will allocate time for data collection activities
- 50% reduction in desired incubation period would yield useful data
- ALC stakeholders will endorse/support execution of evaluation

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MEASUREMENT STRATEGY

- Use multiple methods – survey, focus group, SJT, checklist, records
- Link measures of 11B ALC impact to unit training and operations
- Blend objective, self-report, and subjective measurement techniques
- Enhance sensitivity to POI effects by emphasizing quantitative measures
- Iterate core measures across *participant* and *associate* groups
- Allocate key measures to two or more methods for redundancy
- Superimpose data collection within operational environment
- Employ on-site data collectors to execute or supervise data collection
- Use machine-scanned questionnaire forms whenever warranted
- Document focus groups via thematic summaries and voice recordings
- Track attrition, false positives, dead-ends, and their causes in real time
- Record intervening variables and confounding factors
- Assign data manager to inventory data and manage central database
- Take proactive steps to maintain quality and quantity of data
- Protect privacy of individual participants and units

10

METRICS CATEGORIES

- Critical and Creative Thinker
- Warrior Leader
 - Military Leadership
 - Warrior Competencies
- Leader Developer
 - Counseling, Coaching, and Mentoring
 - Training Subordinates
 - Shaping Unit Performance
 - Expanding Own Competencies
- Ambassador
 - All Environments
 - Operational Environment
- Resource Manager
- Global Impact

11

TYPES OF MEASURES (PRIMARY)

- Extent of ALC practice/opportunities/learning (NCO ratings)
- NCO's opportunities to apply ALC learning in unit (NCO checklist, Ldr estimates)
- NCO's level of proficiency on competencies (NCO ratings pre- and post-training, SJTs)
- Extent of perceived transfer of ALC learning (NCO ratings)
- Extent of ALC impact on NCO's performance, KSAs, and competencies
 - Ratings by NCOs, unit leaders and peers
 - Comments by NCOs, unit leaders and peers
- Extent of ALC impact on squad's performance and processes
 - Ratings by NCOs, unit leaders and peers, CTC O/Cs
 - Comments by NCOs, unit leaders and peers
- Extent of positive feedback re: ALC impact (ratings and comments by NCOs)
- Listing of NCO activities/actions/events/contacts (provided by NCOs, unit leaders)
- Examples of performance/competency/process impact for NCO or squad
 - Comments by NCOs, unit leaders and peers
- Listing of transfer-relevant events in unit (e.g., new equipment received by unit)
 - Comments by NCOs, unit leaders and peers
- Performance scores for NCO, squad members, or squad (from unit records)
- Incidents related to ALC impact (from unit records)

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TYPES OF MEASURES (GLOBAL)

- Relevance of ALC training to NCO job performance (NCO ratings)
- Extent of ALC impact on NCO's performance outcomes (e.g., contributions)
 - Ratings by NCOs, unit leaders and peers
 - Comments by NCOs, unit leaders and peers
- Extent of ALC impact on NCO's self-image (e.g., commitment to Army)
 - Ratings and comments by NCOs
- Extent of ALC impact on NCO's or squad's standing in the unit
 - Ratings by NCOs, unit leaders and peers
 - Comments by NCOs, unit leaders and peers
- Extent of NCO's impact on unit training and operations (ALC-related)
 - Ratings by NCOs, unit leaders and peers
 - Comments by NCOs, unit leaders and peers
- Unit environment as it affects NCO's use of ALC learning (e.g., time, workload)
 - Ratings by NCOs, unit peers
 - Comments by NCOs, unit peers
- ALC benefits to NCO and squad
 - Comments by NCOs, unit leaders and peers

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DATA COLLECTION INSTRUMENTS

- **Survey Questionnaires**
 - Biographical Inventory (integrated with primary questionnaire as appropriate)
 - ALC Students Survey (start-of-course and end-of-course versions)
 - Participants Survey (end-state)
 - Unit Leaders Survey (including section for Platoon Sergeants only)
 - Unit Peers Survey
- **Focus Group Protocols**
 - ALC Students Focus Group (end-of-course)
 - Participants Focus Group (end-state)
 - Unit Leaders Focus Group
 - Unit Peers Focus Group
- **Miscellaneous Instruments**
 - Situational Judgment Tests (start-of-course and end-of-course versions)
 - Application Checklist (recurring)
 - Unit Records-Based Capture Form
 - Master Data Inventory

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DATA SOURCES

- ALC students/graduates – squad leaders for at least 2 months
- Unit leaders – Plt Sgt, Plt Ldr, Co 1SG, Co Cdr (within NCO's Co)
- Unit peers – other squad leaders (within NCO's Co)
- CTC O/Cs – via end-of-rotation take home packages
- Unit performance records – routine testing and training records, etc.
- Unit incident records – personnel reports, UCMJ records, etc.
- Data collectors – on-site researchers (significant events, exceptions)
- Investigators – scientists, SMEs, etc. (lessons learned)

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DATA COLLECTION STAGES

- Start-of-ALC Snapshot (*schoolhouse* and *MTT* participants)
 - Biographical inventory (all) + survey (all) + SJT (all)
- End-of-ALC Snapshot (*schoolhouse* and *MTT* participants)
 - Survey (all) + SJT (all) + focus group (subset)
- Application Period Tracking (*schoolhouse* and *MTT* participants)
 - ALC-related activity checklist (all, by pay period)
- End State Assessment
 - Participants (*Schoolhouse* and *MTT*): Survey (all) + focus group (subset)
 - Unit Leaders: Survey (all) + focus group (subset)
 - Unit Peers: Survey (all) + focus group (subset)
 - On-site data collectors: Records-based data + confounding factors

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DATA COLLECTION SCHEDULE (STRAWMAN)

Activity	2009 Nov	Dec	2010 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Hire, train-up, and rehearse data collection teams	-----											
Collect data during Phase II (students in schoolhouse + MTT)			-----									
Application period (locate associates, collect checklist data)				-----								
Collect data from schoolhouse samples (<i>participants + assoc's</i>)							-----					
Collect data from MTT samples (<i>participants + associates</i>)								-----				

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APPENDIX G

Data Collection and Management Plan (DCMP)

INFANTRY ALC TRAINING TRANSFER EVALUATION

Prepared for:

U.S. Army Research Institute
Fort Benning Research Unit

Prepared by:

Northrop Grumman Technical Services
Columbus, Georgia

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ADMINISTRATIVE NOTES

- A. This plan will require updating as part of the follow-on preparations for data collection.
- B. This plan may require periodic updating during actual data collection to incorporate changes in data collection procedures and/or materials.
- C. The Data Manager is responsible for maintaining and distributing this plan.
- D. Suggestions for modifying this plan should be submitted to the point of contact below.
- E. Point of contact for this plan is Dr. Robert Pleban, (706) 545-2207,
Robert.Pleban@us.army.mil.

Infantry ALC Training Transfer Evaluation DATA COLLECTION AND MANAGEMENT PLAN (DCMP)

ARI – Fort Benning Research Unit

Scope of the Plan

This document lays out the plans to accomplish a 100% data collection effort for the targeted sample of Soldiers. The plan is flexible so that specific features may be rescaled to reduce resource requirements or troop support burden.

1. References

- a. Northrop Grumman Technical Services, *FarXfer Data Collection Instruments – Outline Design* (Version 3.0), 2 Mar 09.
- b. Northrop Grumman Technical Services, *ALC Training Transfer Evaluation Design Plan* (Final), 27 Feb 09.
- c. Northrop Grumman Technical Services, *ALC Far Transfer: Master List of Measures* (Version 3.0), 26 Feb 09.
- d. Northrop Grumman Technical Services, *Candidate Metrics of BNCOC/ALC Impact* (Version 6.2), delivered 15 Sep 08.
- e. Northrop Grumman Technical Services, *Comprehensive Work Plan (Final) – BNCOC Far Transfer*, 14 Apr 08.
- f. U.S. Army Research Institute, *Development and Methodology for the Administration of a Basic Non-commissioned Officer Course (BNCOC) Survey of Far Transfer – Soldier Readiness* (Statement of Work), issued 14 Feb 08.

2. Key Personnel Defined

- a. Tactical Units
 - (1) *Participant* — 11B ALC graduate (new Phase II POI) who serves as a squad leader.
 - (2) *Associates* — Unit leaders and peers who know a participant before and after ALC.
 - (3) *Unit leader* — Representative leader of a participant, within the same company.
 - (4) *Unit peer* — Representative peer (squad leader) of a participant, within the same company.
 - (5) *Cohort* — A group of *participants* from the same ALC class, plus their *associates*.
- b. Research Team
 - (1) *Evaluation manager* — ARI's principal investigator who directs the evaluation.
 - (2) *Data manager* — ARI's investigator who manages data operations.
 - (3) *Data collectors* — Researchers who conduct, supervise or monitor data collection events.
 - (4) *Facilitators* — Data collectors (SMEs) who lead interactive data collection sessions.

3. Sampling Procedures

- a. *Classes Targeted.* The sample pool is defined by the class schedule following lock-in of the new POI. Classes scheduled in the schoolhouse (NCO Academy, Fort Benning) and at home stations (Mobile Training Team, or MTT) are targeted, approximately 6 months after lock-in of the new POI.
 - (1) *Schoolhouse* classes, 2 total (parent units = light, heavy, and Stryker BCTs)
 - (2) *MTT* classes in CONUS, 1 each for light, heavy, and Stryker BCTs in reset phase (3 total)
- b. *Selecting Participants.* The following criteria will govern selection of *participants*:
 - (1) *Schoolhouse* classes: NCOs must be squad leaders remaining with same CONUS units and 2-6 months from deploying (5-6 months desired); starting sample = all eligible students (~75% of class, or 120-150 NCOs); final sample = 80% of starting sample (assuming 20% attrition) or less if dictated by resource constraints
 - (2) *MTT* classes (units in reset phase): NCOs must be squad leaders scheduled to remain with unit at least 2-6 months (5-6 months desired); starting sample = all eligible students (~90% of class, or 55-90 NCOs); final sample = 90% of starting sample (assuming 10% attrition) or less if dictated by resource constraints
- c. *Selecting Associates.* The following criteria will govern selection of *associates*:
 - (1) *Unit Leaders* (1 per participant): supervisory personnel listed by participant, who directly observe the participant at least 2-4 months before and 2-4 months after ALC, located in CONUS at time of data collection
 - (2) *Unit Peers* (1 per participant): fellow squad leaders listed by participant, who directly observe the participant at least 2-4 months before and 2-4 months after ALC, located in CONUS at time of data collection, and preferably not serving as a participant
- d. *Rostering.* Based on the initial information (start-of-course survey) gathered from students in the targeted classes, the data manager will screen out ineligible candidates and prepare a master list of *participants*, *leaders*, and *peers*.
- e. *Non-Overlap between Participants and Peers.* When rostering *peers*, the data manager will avoid selecting an individual who is also a *participant*, given a reasonable choice. This is meant to avoid *peers* comparing themselves (competing) with *participants* whom they rate in surveys.
- f. *Expected Attrition.*
 - (1) 10-20% attrition of MTT and schoolhouse *participants*
 - (2) Up to 25% attrition of *associates*
- g. *Close-out Authority.* The data manager will assess sampling outcomes and verify the sufficiency of each sub-sample, with the evaluation manager's concurrence.

4. Data Requirements

- a. *Primary Requirements.* A comprehensive list of primary measures appears in Reference 1c. The measures fall under the five roles of a multifunctional NCO: critical and creative thinker, warrior leader, leader developer, ambassador, and resource manager.
- b. *Supplemental Requirements.* Secondary measures address participant attributes, training and application opportunities, unit training events, unit environment, and global impact.
- c. *Data Sources:* The complete family of data requirements targets the following data sources:
 - (1) *Participants* (NCOs during and after ALC attendance)
 - (2) *Associates* (unit leaders and peers who know a participant before and after ALC)
 - (3) *Take home packages* from CTC rotations

- (4) *Unit records* (training schedules, testing records, personnel reports, UCMJ records, etc.)
- d. *Data Tagging*. Critical data tags include Soldier identification number (used for all components of a record), group (schoolhouse vs. MTT), role (participant, unit leader, unit peer), unique unit identifier (down to squad), installation, and date-time when data were collected.

5. Data Collection Instruments

- a. *Master List*. Reference 1a outlines the data collection instruments, their design parameters, and the scope of their contents.
- b. *Instrument Types*. Five kinds of data collection instruments are used: survey questionnaires, focus group protocols, situational judgment tests, participant checklists, and forms for capturing data from unit records. The intended medium is hardcopy.
- c. *Survey Questionnaires*.
- Biographical Inventory (integrated with primary questionnaire where feasible)
 - ALC Students Survey (start-of-course and end-of-course versions)
 - Participants Survey (end-state)
 - Unit Leaders Survey (including section for Platoon Sergeants only)
 - Unit Peers Survey
- d. *Focus Group Protocols*.
- ALC Students Focus Group (end of course)
 - Participants Focus Group (end state)
 - Unit Leaders Focus Group
 - Unit Peers Focus Group
- e. *Miscellaneous Instruments*.
- Situational Judgment Tests, or SJTs (start-of-course and end-of-course versions)
 - Application Checklist (recurring)
 - Unit Records-Based Capture Form
 - Master Data Inventory
- f. *External Approval*. Instruments that produce a record of Soldier responses (questionnaires, focus group protocols, SJTs, checklists) will be submitted for verification of exempt status.
- g. *Machine Scan Capability*. Instruments that record Soldier responses (questionnaires, SJTs, checklists) will be prepared in machine scanned (mark sense) form whenever feasible.
- h. *Production*. The data manager's office will produce hardcopies of Soldier-completed forms (questionnaires, SJTs, checklists) and ship them to the data collection sites. Other forms (focus group protocols, records-based capture form) may be produced locally. The central production of key forms will reduce problems related to machine scanning and fractionated quality control.
- i. *Approval of Changes*.
- (1) The use of standard data collection instruments, as approved by the evaluation manager, is essential to the collection of high quality data.
 - (2) The evaluation manager must approve any modifications or adaptations of the data collection instruments.

6. Data Collection Procedures

- a. *General*.
- (1) *Standardization*. Standard procedures will help ensure the quality, integrity, and privacy of the multi-faceted data. Members of the research team will not depart from the established procedures without approval from the evaluation manager, unless it is unavoidable.

- (2) *Investigative control.* The data manager will direct and monitor all data collection activities. The evaluation manager must approve all planned departures from standard procedures.
- (3) *Data Collection Teams.* Fully qualified and trained data collectors will conduct, supervise, or monitor the collection of data. Data collectors will work in two-person teams. One of the members must be a military SME. As a general rule, both members of a team will be needed for data collection sessions, except for records-based capture sessions.
- (4) *Data Collector's Guide.* All data collectors, including session facilitators, will use a job aid in the form of a common *Data Collector's Guide*. The user-friendly guide will be a key tool for standardizing the data collection procedures.
- (5) *Data Collection Sites.* Data collection activities will take place at schoolhouse or unit sites (see para 11 below). Data collection teams will work on site using Government facilities.
- (6) *Site Visits.* Data collectors will travel to schoolhouse and unit sites to collect data. Site visits will be planned to maximize the data collection opportunities during each visit and to minimize the number of visits to each schoolhouse and installation.
- (7) *Procedural Documentation.* Data collectors will document all planned and unplanned departures from the standard procedures. The documentation will be submitted to the data manager to become part of the database.
- (8) *Confidentiality of Data.* Protecting the privacy of Soldiers and units is an absolute obligation of the research team. All hardcopy and electronic data must be treated as confidential and protected against access by anyone outside ARI's research team.

b. *Survey (Questionnaire) Sessions.*

- (1) *Administration.* A data collection team will administer survey sessions, preparing in advance and managing each session. Surveys will be administered to groups as large as 200 Soldiers. A team will handle only one survey group at a time, unless simultaneous groups are located in close proximity. For groups smaller than 25 Soldiers, only one data collector should suffice.
- (2) *Advance Preparation.* The lead data collector will accomplish final coordination of the schedule and location for each survey session. S/he will organize hardcopies of all questionnaire forms (received from the central office) needed for each session, and fill in any fields reserved for use by the research team. S/he will also obtain pencils or pens to take to the session.
- (3) *During the Session.* At the start of the session the data collection team will introduce the survey, then distribute the forms, provide pencils/pens as needed, and answer questions.
- (4) *End of Session.* The data collectors will gather the forms completed by the Soldiers. They will verify the completeness of the administrative information on each questionnaire before releasing the individuals as they finish. When a focus group follows, the Soldiers will be asked to remain in the area for the follow-on activity.
- (5) *After the Session.* The lead data collector will execute the procedures for submitting and storing data specified in paragraphs 6e and 6f below.

c. *Focus Group Sessions.*

- (1) *Data Collection Team.* When conducting focus groups, the members of a data collection team will fill two roles—facilitator and note taker. The facilitator will be a military SME, preferably with previous facilitation experience. The note taker should be familiar with military operations and terms.
- (2) *Group Composition.* A focus group session will involve a group ranging from 3 to 6 Soldiers (4-6 participants, 3-5 unit leaders, 4-6 unit peers). A focus group will contain Soldiers of only one type (participants or leaders or peers). For example, leaders and peers will not participate in the same group, to avoid curtailing full and frank participation.

- (3) *Administration.* The facilitator will handle administrative aspects of focus groups, preparing in advance and managing the session itself. As a general rule, a facilitator will conduct no more than four focus group sessions in a day.
- (4) *Advance Preparation.* The data collectors will conduct final coordination of the schedule and location for each focus group session. Working with the appropriate focus group protocol, the facilitator will prioritize the questions and tailor the protocol for the specific group, annotating the protocol in the process.
- (5) *During the Session.* The facilitator will use the annotated protocol as a guide for each group or individual session. The facilitator will encourage interaction among the Soldiers in the group, fostering a collaborative brainstorming environment. The focus group protocol will specify procedures for eliciting insights on issues of interest. The note taker will capture the key points of the dialogue, using a laptop computer. As a general rule, voice dialogue will be digitally recorded for later reference.
- (6) *After the Session.* After releasing the Soldiers, the data collectors will transfer the voice file to a digital storage medium (e.g., laptop computer or flash drive), using a standard format for naming each file. At the end of each day, the note taker will flesh out the notes in a Microsoft Word® file, and the facilitator will review the notes before they are finalized. A designated data collector will execute the procedures for submitting and storing data specified in paragraphs 6e and 6f below.

d. *Other Data Collection Activities.*

(1) *SJT Sessions.*

- (a) *Administration.* A data collection team will administer each SJT session, preparing in advance and managing the session itself. SJTs will be administered to groups as large as 200 Soldiers. A team will handle only one SJT group at a time.
- (b) *Advance Preparation.* The lead data collector will accomplish final coordination of the schedule and location for each SJT session. S/he will ready the hardcopy SJT forms (received from the central office) for each session, and fill in any fields reserved for use by the research team. S/he will also obtain pencils or pens to take to the session.
- (c) *During the Session.* At the start of the session the data collection team will introduce the SJT, then distribute the forms, provide pencils/pens as needed, answer questions, and enforce time limits as applicable.
- (d) *End of Session.* The data collectors will gather the forms completed by the Soldiers. They will verify the completeness of the administrative information on each SJT form before releasing the students as they finish.
- (e) *After the Session.* The lead data collector will execute the procedures for submitting and storing data specified in paragraphs 6e and 6f below.

(2) *Participant Checklist.*

- (a) *Basic Process.* During the application period following ALC graduation, each participant will complete a checklist twice each month to record the actual application of ALC-acquired knowledge and skills.
- (b) *Distribution of Forms.* The data manager will mail hardcopies of the checklist to a unit POC to distribute locally. If feasible, the data manager may email the checklist file to each participant, who will print the form or use it digitally. As a fallback option, the data manager may mail a 3-month supply of printed forms to a participant.
- (c) *Recording Cycle.* A participant will record application data for intervals of about two weeks, with the cycle concluding at the end of a pay period.

- (d) *Reminders.* The data manager will send regular reminders (semi-monthly) to each participant, via email or regular mail. Despite the increased administrative workload, the prospects of avoiding very low return rates should justify the extra effort.

(3) *Capture of Records-Based Data.*

- (a) *Basic Process.* A data collector will use the *Records-Based Capture Form* to extract specified data elements from unit records during an on-site visit.
- (b) *Advance Preparation.* The data collector will schedule one or more sessions in the appropriate battalion and company HQ. S/he will become thoroughly familiar with the capture form prior to the first session.
- (c) *Data Capture.* At the start of each session the data collector will brief the unit POC on the purpose of the data capture. The data collector will locate each specified data element in the appropriate unit record(s) and manually record the element on the capture form. Alternatively, a designated unit POC may provide the required data elements for the data collector to record on the capture form.
- (d) *Cautions.* The data collector will comply with all rules and provisions specified by the unit POC. S/he will not photocopy or remove any portion of unit records, nor will s/he make marks or annotations on any unit records.

e. *Submission of Data.*

- (1) *Standard Forms* (non-recurring). The lead data collector will deliver completed surveys, SJT forms, and records-based capture forms in person to the data manager. If original forms are shipped to the data manager, a backup copy of each item will be made and stored.
- (2) *Focus Group Records.* For each completed focus group, a designated data collector will send a digital copy of the compiled notes (and voice recording, if directed) to the data manager.
- (3) *Participant Checklists* (recurring). At the end of every pay period each participant will submit his/her latest checklist to the unit POC, who will forward the forms to the data manager via email attachment or fax or regular mail.
- (4) *Documentation of Exceptions.* Data collectors will submit to the data manager written documentation of all planned and unplanned departures from standard procedures.

f. *Local Protection of Data.*

- (1) *Local Storage.* Backup copies of data in hardcopy and digital forms will be maintained by each data collection team. They will not be destroyed unless the data manager so directs.
- (2) *Protection of Data.* All hardcopy and digital materials containing Soldier information, including digital files and focus group notes, will be stored under controlled access conditions, with no access by personnel outside the research team.
- (3) *Records-Based Data.* All pages of the *Records-Based Capture Form* will be marked "FOUO." Locally maintained copies of these forms will be stored in an enclosed folder or container prominently marked "FOUO."

7. Data Collection Schedule

- a. *Basics.* The data collection period is expected to run from January 2010 through October 2010, with cohorts staggered by the date of the selected courses. Table 1 outlines the four phases of data collection for a given cohort. The application period after ALC graduation will be enforced to allow *participants* sufficient time to apply their ALC learning (5-6 months *desired*, 2 months *minimum*). An acquaintanceship period during which *associates* observe a participant will be enforced (at least 4 months *desired* before and after ALC, 2 months *minimum* before and after ALC).

Table 1. Phases of Data Collection

Phase	Desired Timeframe	Primary Data Collection
Course-Start Snapshot	First 2 days of course	Biographical Inventory, Student Survey, SJT
Course-End Snapshot	Final 3 days of course	Student Survey, SJT, Student Focus Group
Application/Incubation	5-6 months working in unit	Tracking, Participant Checklist
End State Assessment	5-6 months post-ALC	<i>Participant</i> Survey + Focus Group, <i>Associate</i> Survey + Focus Group, Records Mining

- b. *Scheduling.* The research team will coordinate with schoolhouse, MTT, and unit POCs to create a cohort-specific data collection schedule beginning with the start of the course and ending ~7 months later. Table 2 gives the scheduling parameters of the events planned for one schoolhouse cohort (~200 students, ~125 final *participants*, ~250 *associates*). Table 3 gives the scheduling parameters for one MTT cohort (~100 students, ~80 final *participants*, ~160 *associates*). Scheduling end state events for a schoolhouse cohort will be more challenging compared to an MTT cohort, because graduates of a schoolhouse course will return to geographically scattered units.

Table 2. Scheduling Parameters for a Schoolhouse Cohort

Event	When	Duration	# Soldiers	Grp Size	Est # Grps	Collectors per Group
Start and End of Course Snapshots* (occurring at Fort Benning)						
Student Survey, Start-of-Course	Day 1 or 2	1 hour	~200	~200	1	2
Situational Judgment Test #1	Day 1 or 2	1 hour	~200	~200	1	2
Student Survey, End-of-Course	Days 25-26	½ hour	~200	~200	1	2
Situational Judgment Test #2	Days 25-26	1 hour	~200	~200	1	2
Student Focus Gp (End-of-Course)	Days 26-27	2 hours	25-30	5-6	5	2
End State Assessment* (distributed across 6 installations)						
Participant Survey	Graduation + 5-6 mos	1 hour	125	9-12	12	1
Unit Leader Survey	Graduation + 5-6 mos	½ hour	125	9-12	12**	1
Unit Peer Survey	Graduation + 5-6 mos	½ hour	125	9-12	12**	1
Participant Focus Group	Graduation + 5-6 mos	2 hours	125	4-6	24***	2
Unit Leader Focus Group	Graduation + 5-6 mos	1½ hours	125	3-5	30***	2
Unit Peer Focus Group	Graduation + 5-6 mos	1½ hours	125	4-6	24***	2
Records-Based Capture Session	Graduation + 6 mos	1-2 hours	N/A	N/A	20-30	1

* Only one data collection team will work at each site during course snapshot and end state phases.

** Survey and focus group sessions should be scheduled together for *leaders* and *peers*.

*** Based on four or five focus groups per site (installation) visit.

Assumption: At end state, cohort members are more or less evenly distributed across 6 installations.

- c. *Responsibilities.* The data manager will prepare the complete schedule for each schoolhouse cohort, with input from the schoolhouse data collection team leader. For a given MTT cohort, located at one installation, the primary data collection team leader may prepare the schedule (to capitalize on local cognizance), in coordination with the data manager. The data manager will maintain a master schedule that integrates data collection requirements and personnel across installations and cohorts. The data manager will direct internal coordination of schedules to ensure team-wide awareness and resolve scheduling conflicts or issues. The primary data collection team leader will coordinate with local schoolhouse, MTT, and unit POCs whenever possible. The evaluation manager will resolve significant schedule conflicts and issues.

Table 3. Scheduling Parameters for an MTT Cohort

Event	When	Duration	# Soldiers	Grp Size	Est # Grps	Collectors per Group
Start and End of Course Snapshots (occurring at one installation)						
Student Survey, Start-of-Course	Day 1 or 2	1 hour	~100	~100	1	2
Situational Judgment Test #1	Day 1 or 2	1 hour	~100	~100	1	2
Student Survey, End-of-Course	Days 25-26	½ hour	~100	~100	1	2
Situational Judgment Test #2	Days 25-26	1 hour	~100	~100	1	2
Student Focus Gp (End-of-Course)	Days 26-27	2 hours	25-30	5-6	5	2
End State Assessment* (occurring at one installation)						
Participant Survey	Graduation + 5-6 mos	1 hour	80	40	2	2
Unit Leader Survey	Graduation + 5-6 mos	½ hour	80	6-7	12**	1
Unit Peer Survey	Graduation + 5-6 mos	½ hour	80	6-7	12**	1
Participant Focus Group	Graduation + 5-6 mos	2 hours	60***	4-6	12	2
Unit Leader Focus Group	Graduation + 5-6 mos	1½ hours	50***	3-5	12	2
Unit Peer Focus Group	Graduation + 5-6 mos	1½ hours	60***	4-6	12	2
Records-Based Capture Session	Graduation + 6 mos	1-2 hours	N/A	N/A	20-30	1

* Two data collection teams will work on-site during the end state phase.

** Survey and focus group sessions should be scheduled together for *leaders* and *peers*, with excess individuals excused from focus group duty as necessary.

*** Focus group sampling is limited to 60-75% due to time constraints and group size limits.

Assumption: At end state, cohort members are located at the same installation.

- d. **Constraints.** To minimize the intrusion factor for tactical units, it is highly desirable to schedule all data collection events for a BCT within a five-day week. In the case of a schoolhouse cohort, the number of Soldier-in-the-loop end state events at a given installation (less than 20, per Table 2) should fit comfortably within a week. In the case of an MTT cohort, however, all end state events will occur at the same installation and the events could total 40 in number (see Appendix G – Notional Schedule for MTT Cohort). If a data collection team is able to handle up to 20 events in 5 days, scheduling about 40 events in a work week would require 2 data collection teams on site at the same time. Thus, availability of data collection teams could become a constraint. Other constraints will include unit training events, holidays with a short work week, Family time for Soldiers, and perhaps a unit preference against scheduling a given Soldier for more than one session.
- e. **By-Name Tasking.** Course snapshot events will cover 100% of enrolled students assembled in one large group, except for end-of-course focus groups scheduled for 20-25% of the class in small groups. The latter and all other events must be scheduled for specific groups by name. The data collection team leader will use the data manager's master list of *participants* and *associates* to determine the members of each group, and the by-name listings will become a critical part of the paperwork to be coordinated with the schoolhouse, MTT, or unit POCs.
- f. **Leeway.** To accommodate course and unit constraints, scheduling of data collection activities may vary so long as the minimum periods specified above (7a) are protected.
- g. **Notional Schedule.** A notional schedule for an MTT cohort appears in Appendix G (Notional Schedule for MTT Cohort). The table represents the start-to-finish data collection activities associated with an entire MTT class. It incorporates the parameters proposed throughout this section, including a 1-week window with 2 data collection teams. The schedule for a schoolhouse cohort would be more complicated because multiple installations would be involved in end state data collection.

- h. *Illustrative Timeline.* At a given installation, the more demanding data collection schedule is likely to be generated by an MTT cohort because all *participants* and *associates* will reside at that location. To convey a better picture of the flow and density of data collection events, Table 4 presents an illustrative timeline for a high-density week during end state data collection with an MTT cohort, based on Appendix G (Notional Schedule for MTT Cohort). As the table shows, two data collection teams would work at the same site to handle the one-week window targeted for the convenience of the units.

Table 4. One-Week Timeline for End State Events with an MTT Cohort

Day	Morning	Afternoon
Monday	<ul style="list-style-type: none"> Participant survey (½ of cohort, Team #1) Participant focus group x2 (Team #1 + #2) 	<ul style="list-style-type: none"> Participant survey (½ of cohort, Team #1) Participant focus group x3 (Team #1 + #2)
Tuesday	<ul style="list-style-type: none"> Participant focus group x3 (Team #1 + #2) Leader survey/focus group x1 (Team #2) 	<ul style="list-style-type: none"> Participant focus group x4 (Team #1 + #2)
Wednesday	<ul style="list-style-type: none"> Leader survey/focus group x4 (Team #1 + #2) 	<ul style="list-style-type: none"> Leader survey/focus group x4 (Team #1 + #2)
Thursday	<ul style="list-style-type: none"> Leader survey/focus group x3 (Team #1 + #2) Peer survey/focus group x1 (Team #2) 	<ul style="list-style-type: none"> Peer survey/focus group x4 (Team #1 + #2)
Friday	<ul style="list-style-type: none"> Peer survey/focus group x4 (Team #1 + #2) 	<ul style="list-style-type: none"> Peer survey/focus group x3 (Team #1 + #2) Unit records data collection (Team #2)

8. Data Management Procedures

- General.* The data manager will receive and store all original data (questionnaires, SJT forms, etc.) submitted by the data collection teams. S/he will maintain all digital data in a central computerized database.
- Source Identification.* Each Soldier who contributes data (*participants* and *associates*) will enter a unique identification number (ID#) on all data collection instruments. The ID# will consist of the last letter of the Soldier's last name plus the 6 digits (YYMMDD) of a parent's birth date (e.g., T110913). The ID#s will serve as prime tags for all Soldier data. Researchers who contribute data (observations, lessons learned, etc.) may also be assigned ID#s.
- Master Data Inventory.* A master list of data received, stored, and entered into the database will be maintained by the data manager in spreadsheet form. Missing data will be annotated and tracked back to the data collector for possible recovery. As drop-outs are identified, their records will be flagged.
- Database Entry.* The process for entering hardcopy and digital data into the database will be specified by the data manager, who will carefully monitor the process for completeness and accuracy. The master inventory of data will account for all items entered into the database.
- Quality Control.* Data entered manually into the database will be inspected (100%) for accuracy and completeness of data elements, plus completeness of users. Any data entered via digital transfer or scanning will be spot checked (~50% sampling) for accuracy and completeness. The data manager will plan and supervise the quality control process.
- Physical Security.* As a general rule, every Soldier will use his/her ID# in lieu of personal name on data collection instruments. If a record linking personal identifying information with ID#s is kept, the record will exist under strictly controlled conditions, accessible to the data manager and evaluation manager only. Hardcopy data furnished by Soldiers (e.g., questionnaires, SJT forms) will be stored under controlled access conditions and will not be disseminated outside the research team. Only research investigators will have access to the database.

- g. *Procedural Changes.* All deliberate changes in the standard data collection and processing procedures must be approved by the evaluation manager. A cumulative record of all approved changes will be maintained by the data manager. Changes that affect data collectors will be disseminated in written form. The *Data Collector's Guide* may be updated as necessary.
 - h. *Data Archiving.* All raw data (collected via hardcopy and voice recording means) and database contents will be archived at the end of the evaluation. The data will be retained or disposed of in accordance with Army and ARI policies.
9. **Database Requirements.** To ensure comprehensive and reliable management of data, the central database must provide specific capabilities—including relationality, flexible querying, privacy, and exportability of data (especially compatibility with SPSS®).
- a. *Responsibilities.* The data manager and evaluation manager will specify the functional requirements and organization of the database, as well as access privileges. The data manager and database technician will design and develop the database, manage/execute database operations, and control access to the database.
 - b. *Basic Functionality.* The basic capabilities must span (1) handling of multiple data types including text, (2) structuring in accordance with data sources, (3) open-ended accommodation of records, (4) manual and digital data entry, (5) quality control checking, (6) manipulation and compilation of data, and (7) data security.
 - c. *Data Organization.* The data manager will establish and control the organization of the database, in collaboration with the evaluation manager. In general, the database organization will mirror the structure of the data collection instruments. The structure must facilitate the aggregation and analysis of data. The data manager will create and maintain a master schematic of the database structure. Once the structure is finalized (following pilot testing), no changes will be made without the evaluation manager's approval.
 - d. *Relationality.* It is essential to enable linkage of data across records for a given participant. Every record or separable component must carry the ID# for the unique participant. In addition, the database must support aggregation of data for course mode, unit, and installation. See paragraph 4d above for critical data tags.
 - e. *Database Privacy.* No personal identifying information (e.g., SSN, surname) will be stored in the database. A list of persons authorized to access the database will be created by the data manager, approved by the evaluation manager, and updated at least monthly.
 - f. *Query Options.* Research team members (evaluation manager, data manager, investigators) will use direct query capabilities to support data analysis.
 - g. *Exportability.* The database will be capable of outputting data sets for analysis using other software (e.g., SPSS®, Microsoft Excel®).
 - h. *Documentation.* The data manager and database technician will informally document the structure, functionality, user interface, quality control, and privacy aspects of the database. The documentation will be updated if substantial changes occur.

10. Resources

- a. *Staffing for Data Collection and Management.*
 - (1) *Data Collection Workload.*
 - (a) *Course Snapshot Phase.* The number of data collection sessions in a course snapshot week would generally not exceed 7 for schoolhouse and MTT courses. Because of the group size or nature of a session, each would be handled by a data collection team.

- (b) *End State Assessment Phase.* For a schoolhouse cohort, end state data collection would take place at the various installations (up to 6) where the participants work. If the schoolhouse participants are distributed more or less evenly across 6 installations, the number of data collection sessions per installation (typically less than 20; see Table 2) could be handled by one data collection team. For an MTT cohort, however, the number of sessions (nearly 40, as seen in Table 4, with all participants located at the same installation) would require two data collection teams to gather all data within a week. Most end state events would engage two data collectors per session.
- (2) *Distribution of Workload.* Table 5 combines the workload projections and the scheduling factors to portray a notional week-by-week layout of data collection sessions, by cohort. The workload distribution shown in Table 5 represents a best-case scenario where course schedules and unit schedules would allow optimal timing of the data collection events. During the course snapshot phase the schedule of courses would involve no overlap of start dates. During the end state assessment phase, the schedule would be orchestrated so that no more than 2 installations involving schoolhouse sub-samples (or 1 installation involving MTT sub-samples) fall in the same week. The best-case scenario rests on several critical assumptions (see 10a(6) below), at least some of which are unlikely to prove valid. The actual data collection schedule will probably involve less-than-ideal spacing of events within and across installations, creating surge periods and stretching out the overall data collection window.
- (3) *Data Collection Teams.* A data collection team will consist of one data collector/SME (to serve as a facilitator) and one data collector/general. During the end state phase, the majority of the sessions will require both team members working together. As Table 5 shows, a best-case distribution of end state sessions would require no more than two data collection teams at one time. However, three (or even four) data collection teams would provide flexibility to accommodate surge periods driven by unit schedule constraints. The higher level of staffing would also provide backup in case of illnesses, Family emergencies, etc. Such flexibility may be desirable to minimize lost or degraded data.
- (4) *Weekend Scheduling.* Course schedules or unit constraints may lead to scheduling data collection events on weekends, especially during the course snapshot phase. This would make it necessary for data collection teams to work during occasional weekends.
- (5) *Positions Required.* The following positions are required to manage and conduct data collection and database activities, with backup options for data collectors:
- Data collectors/general (1-2 during course snapshots, 2-4 during end state phase)
 - Data collectors/SMEs (1-2 for course-end focus groups, 2-4 during end state phase)
 - Evaluation manager (1)
 - Data manager, with database experience (1)
 - Database technician (1)
 - Data entry clerk (1)
- (6) *Assumptions.* The best-case schedule depicted in Table 5 depends on several critical assumptions. If one or more assumptions prove false, the evaluation resource plan should provide reasonable flexibility to handle contingencies. The critical assumptions are:
- Two schoolhouse classes and three MTT classes will be scheduled within 10-12 weeks, enabling a compact distribution of data collection sessions.
 - No MTT course will start at the same time as a schoolhouse course or another MTT course, minimizing overlap of course snapshot activities.
 - For a schoolhouse cohort during the end state phase, data collection will be required at no more than two installations at a time.
 - For an MTT cohort during the end state phase, all *participants* and *associates* will be located at a single installation.

Table 5. Best-Case Distribution of Data Collection Sessions (All Cohorts)

<< Number of specific sessions (and installations) by week >>

Week	Schoolhouse Cohorts (2 each)							MTT Cohorts (3 each)						
	Course Snapshot Phase													
	Survey #1	SJT #1	Survey #2	SJT #2	Focus Gp			Survey #1	SJT #1	Survey #2	SJT #2	Focus Gp		
1	1 (1)	1 (1)												
2								1 (1)	1 (1)					
3														
4			1 (1)	1 (1)	5 (1)			1 (1)	1 (1)					
5										1 (1)	1 (1)	5 (1)		
6														
7										1 (1)	1 (1)	5 (1)		
8	1 (1)	1 (1)												
9								1 (1)	1 (1)					
10														
11			1 (1)	1 (1)	5 (1)									
12										1 (1)	1 (1)	5 (1)		
Application/Incubation Phase														
	End State Assessment Phase													
	Participant Survey	Participant Focus Gp	Unit Leader Surv+Focus Gp	Unit Peer Surv+Focus Gp	Records-Based Capture			Participant Survey	Participant Focus Gp	Unit Leader Surv+Focus Gp	Unit Peer Surv+Focus Gp	Records-Based Capture		
24	4 (2)	8 (2)	10 (2)	8 (2)	8 (2)									
25	4 (2)	8 (2)	10 (2)	8 (2)	8 (2)									
26	4 (2)	8 (2)	10 (2)	8 (2)	8 (2)									
27														
28								2 (1)	12 (1)	12 (1)	12 (1)			
29												6 (1)		
30								2 (1)	12 (1)	12 (1)	12 (1)			
31												6 (1)		
32														
33								2 (1)	12 (1)	12 (1)	12 (1)			
34												6 (1)		
35	4 (2)	8 (2)	10 (2)	8 (2)	8 (2)									
36	4 (2)	8 (2)	10 (2)	8 (2)	8 (2)									
37	4 (2)	8 (2)	10 (2)	8 (2)	8 (2)									
38														

Notes: (a) The first entry in a cell gives the number of event-specific sessions for the week. The second entry (in parentheses) is the number of installations. (b) Entries in bold indicate 2 data collectors per session. (c) If timing dictates, records-based capture sessions will be scheduled Monday of the week following primary data collection.

- During the end state phase, the number of sessions at a given installation will not exceed what two data collection teams can handle in a week (~40 discrete sessions).
- Units at a given installation will schedule troops for end state data collection activities within a one-week period that fits the evaluation schedule.
- Units will support by-name tasking for specific groups with no more than 5% failure, eliminating the need for alternate or make-up sessions.
- Backup data collector(s) would be available in case illnesses, Family emergencies, or other contingencies occur.

b. *Facilities.*

- (1) *Data Collection Facilities.* When collecting data in the schoolhouse, data collectors will use classroom space provided by the schoolhouse. At FORSCOM installations they will use Government-furnished classrooms, conference rooms, or office space.
- (2) *On-site Office Space.* When working at a Government site, data collectors and other researchers will use temporary office space provided by the unit or installation. Office furnishings and telephone service in these offices will be provided by the Government.

c. *Equipment, Software, and Supplies.*

- (1) *Computers and Networks.* Each data collection team will require a laptop computer for recording notes during focus groups. Internet access by data collectors while on site is not expected to depend on Government-furnished networks.
- (2) *Database Host.* A Government-furnished computer will be used to host the database, with no requirement for server-client capabilities.
- (3) *Software.* Special software will be required to implement machine scanning of survey questionnaires and perhaps database capabilities.
- (4) *Projection Equipment.* If projection of slides is required (e.g., to display focus group materials), the data collectors should be prepared to provide suitable projection equipment. Providing materials in handout form is encouraged, rather than projecting them.
- (5) *Supplies.* Data collectors should take pencils and/or pens to survey sessions. If they are required to take bulky materials such as note tablets and butcher paper to focus group sessions, such supplies would likely be purchased locally.

11. Data Collection Locations

- a. *Schoolhouse.* The resident Infantry ALC Phase II course is taught at Fort Benning, GA. The collection of data from students attending the course will occur at Fort Benning. No other locations for schoolhouse data collection are anticipated.
- b. *FORSCOM Units.* The sampling plan targets MTT courses that will be taught at three different installations in CONUS. The schoolhouse participants will return to infantry units that could be located at eight different CONUS installations. To reduce evaluation costs, this plan assumes that data collection will involve no more than 6 installations, as follows:

◆ Fort Benning	◆ Fort Hood	◆ Fort Riley
◆ Fort Lewis	◆ Fort Drum	◆ Fort Stewart

12. Pilot Test

- a. *Purpose.* A pilot test will be essential to ensure the quality and readiness of the data collection and management procedures and tools. It will also test the infrastructure supporting the data collection activities.

- b. *Concept.* The pilot test will be a trial implementation with all players (Soldiers and researchers) represented credibly. A compressed schedule for an ALC cohort will be followed, with data collection events simulated in mock-up fashion. All data collection instruments will be used. The complete process for collecting and managing data (including database operations) will be exercised. The results of the test will be used to revise data collection/management tools and procedures, as necessary.
- c. *Pilot Test Plan.* The outline plan for the pilot test appears in Appendix G (Pilot Test – Outline Plan).

NOTIONAL SCHEDULE FOR MTT COHORT

(Based on 1-week end-state window with 2 data collection teams working at 1 installation)

Date	Time	Event	Comments
<i>Course Snapshot Phase</i>			
12 Jan 10	1000-1100	Student Survey (start of course)	Entire class ($n = \sim 100$)
	1100-1200	Student SJT (start of course)	Entire class ($n = \sim 100$)
4 Feb 10	0800-0830	Student Survey (end of course)	Entire class ($n = \sim 100$)
	0830-0930	Student SJT (end of course)	Entire class ($n = \sim 100$)
	0930-1130	Student Focus Group (Group #1)	Subsample ($n = 5$)
	1300-1500	Student Focus Group (Group #2)	Subsample ($n = 6$)
	1500-1700	Student Focus Group (Group #3)	Subsample ($n = 5$)
5 Feb 10	0800-1000	Student Focus Group (Group #4)	Subsample ($n = 6$)
	1000-1200	Student Focus Group (Group #5)	Subsample ($n = 5$)
<i>End State Assessment Phase</i>			
26 Jul 10	0900-1000	Participant Survey ($\frac{1}{2}$ of sample)	DC Team #1
	1000-1200	Participant Focus Group (Groups #P1 & #P2)	DC Teams #1 and #2
	1300-1400	Participant Survey ($\frac{1}{2}$ of sample)	DC Team #1
	1300-1500	Participant Focus Group (Group #P3)	DC Team #2
	1500-1700	Participant Focus Group (Groups #P4 & #P5)	DC Teams #1 and #2
27 Jul 10	0800-1000	Participant Focus Group (Groups #P6 & #P7)	DC Teams #1 and #2
	1000-1200	Participant Focus Group (Group #P8)	DC Team #1
		Leader Survey + Focus Group (Group #L1)	DC Team #2
	1300-1500	Participant Focus Group (Groups #P9 & #P10)	DC Teams #1 and #2
28 Jul 10	1500-1700	Participant Focus Group (Groups #P11 & #P12)	DC Teams #1 and #2
	0800-1000	Leader Survey + Focus Group (Group #L2 & #L3)	DC Teams #1 and #2
	1000-1200	Leader Survey + Focus Group (Groups #L4 & #L5)	DC Teams #1 and #2
	1300-1500	Leader Survey + Focus Group (Groups #L6 & #L7)	DC Teams #1 and #2
29 Jul 10	1500-1700	Leader Survey + Focus Group (Groups #L8 & #L9)	DC Teams #1 and #2
	0800-1000	Leader Survey + Focus Group (Groups #L10 & #L11)	DC Teams #1 and #2
		Leader Survey + Focus Group (Group #L12)	DC Team #1
	1000-1200	Peer Survey + Focus Group (Group #Pr1)	DC Team #2
	1300-1500	Peer Survey + Focus Group (Groups #Pr2 & #Pr3)	DC Teams #1 and #2
30 Jul 10	1500-1700	Peer Survey + Focus Group (Groups #Pr4 & #Pr5)	DC Teams #1 and #2
	0800-1000	Peer Survey + Focus Group (Groups #Pr6 & #Pr7)	DC Teams #1 and #2
		Peer Survey + Focus Group (Groups #Pr8 & #Pr9)	DC Teams #1 and #2
	1000-1200	Peer Survey + Focus Group (Groups #Pr10 & #Pr11)	DC Teams #1 and #2
	1300-1500	Peer Survey + Focus Group (Group #Pr12)	DC Team #1
		Unit Records Data Collection	DC Team #2

NOTE-1: Focus group size = 4-6 Soldiers (*participants* and *peers*) or 3-5 Soldiers (*leaders*).

NOTE-2: All rostered *leaders* and *peers* will be scheduled for surveys to ensure 100% sampling, with excess individuals excused from the focus group sessions (60-75% sampling) as necessary.

PILOT TEST – OUTLINE PLAN

Test Aspect	Plan
Objective	Verify that data collection instruments, research personnel, infrastructure, and data collection/management procedures are ready for executing the FarXfer evaluation.
Location	Fort Benning, GA and one remote site
Dates	2-3 days during the week of 14 Dec 09 (or 2-4 weeks before start of data collection)
Staffing	<ul style="list-style-type: none"> • Participants – NCOs in casual status at Fort Benning (3-4 ea) • Associates (Soldiers in casual status) – leader (1LT x2), peer (2 ea) • Research team – ARI investigator(s) and contract personnel, including Evaluation Mgr
Test Materials	<ul style="list-style-type: none"> • Data collection instruments (DCIs) • Data Collection and Management Plan • Data Collector's Guide
Test Environment	<ul style="list-style-type: none"> • Data collection facilities = ARI workspace, contractor workspace, player offices • Equipment = Govt database host, project laptops (3 ea), PCs normally used by players • Connectivity via Internet
Readiness Criteria	<ul style="list-style-type: none"> • Mature test materials ready for implementation • All Soldiers and researchers on hand, including 2 fully trained data collectors • Database attended by database technician • Go-ahead decision by the evaluation manager
Test Management	<ul style="list-style-type: none"> • ARI coordinates for Soldiers to serve as participants and associates • Detailed test schedule guides sequence and pacing of pilot test activities • Evaluation manager oversees test activities and resolves test issues • Data manager supervises data collection and management activities • End-of-day hot washes facilitate progress tracking and mid-course adjustments • Evaluation manager decides when to end pilot testing, based on sufficiency of data
Test Procedures	<ul style="list-style-type: none"> • Players execute events IAW Data Collection and Management Plan • Facilitator conducts and documents focus group sessions (2 iterations) • Each participant completes and submits checklist in dry-run fashion • Data collectors gather and submit survey, SJT, focus group, & other data • Data collectors gather and submit records-based data in dry-run fashion • Data manager maintains checklist as events/milestones are completed • Data manager exercises database functions, including data entry • At least two investigators exercise database interface, including query functions • Players retest instruments and functions as modifications are completed • Data manager determines sufficiency of data from each test event
Data Collection	<ul style="list-style-type: none"> • Primary means = DCIs developed for the evaluation + comment sheets • Secondary means = facilitated end-of-day and end-of-test hotwashes • Data manager collects hardcopy forms and tracks all data, with evaluator's help • Evaluator takes notes during each hotwash and prepares summary • Researchers document own lessons learned
Data Utilization	<ul style="list-style-type: none"> • Compile and organize data using the project database • Examine raw and digital data for flaws, malfunctions, problems, and discrepancies • Identify candidate fixes and improvements for materials and procedures • Resolve issues, problems, and improvements during pilot test
Privacy Controls	<ul style="list-style-type: none"> • No Soldier identification on DCIs, comment sheets, or compilations • Restricted access to all data • Non-attribution of findings
Outcomes	<ul style="list-style-type: none"> • Revised evaluation materials and procedures, ready for execution of data collection • Lessons learned for executing the FarXfer evaluation

APPENDIX H

DATA COLLECTION INSTRUMENTS – OUTLINE DESIGN

Purpose: This document outlines the design of the data collection instruments to be used in measuring the impact of the new Infantry ALC POI among tactical units.

Privacy Protection: Personal identification numbers will be assigned to all Soldiers and used to identify individuals on all Soldier-completed forms.

Instrument	Design Parameters	Measurement Scope
<i>I. Survey Questionnaires</i>		
A. Biographical Inventory	<ul style="list-style-type: none"> • Target Audience: ALC students/graduates • Mode: Hardcopy (self-explanatory, stand-alone) • Max completion time: 15 min • Prompting: maximum use of itemized lists, with “other” write-in where appropriate • Modeling: inclusion of example entries where guiding is desirable • Layout: boxed items, with internal borders where multiple elements are involved 	<ul style="list-style-type: none"> • Demographic characteristics (rank, TIS, etc.) • Schooling – military and civilian • Assignment history • Deployment history
B-1. ALC Students Survey, Start-of-Course	<ul style="list-style-type: none"> • Target Audience: ALC students (Day 1) • Mode: Hardcopy (self-explanatory, stand-alone) • Max completion time: 30 min • Primary rating scale: uni-dimensional level of competence, 6-point, no neutral point, response by circling a number or selecting a box • Layout: boxing with internal borders, embedded scale codes, ruled write-in boxes • Clustering: similar items presented together in multi-row box, with shared stem • Write-ins: elaboration + open-ended 	<ul style="list-style-type: none"> • Extent of NCO competencies (per metrics) • Extent of NCO competencies (per POI) • Perceived readiness for ALC learning • Motivation to learn as a student • Expected job relevance of ALC training/learning • Expected ALC outcomes
B-2. ALC Students Survey, End-of-Course	<ul style="list-style-type: none"> • Target Audience: ALC students (final day) • Mode: Hardcopy (self-explanatory, stand-alone) • Max completion time: 30 min • Primary rating scale: same as IB-1 • Layout: same as IB-1 • Clustering: same as IB-1 • Write-ins: elaboration + open-ended 	<ul style="list-style-type: none"> • Extent of ALC training/practice/opportunities • Extent of NCO competencies (per metrics) • Extent of NCO competencies (per POI) • Selected ALC learning outcomes • Expected job relevance of ALC training/learning • Realized ALC outcomes
C. Participants Survey, End State	<ul style="list-style-type: none"> • Target Audience: ALC graduates • Mode: Hardcopy (self-explanatory, stand-alone) • Max completion time: 45 min • Rating scale: bipolar agree-disagree, 6-point, no neutral point, “not performed” option, response by circling a number or selecting a box • Layout: boxing with internal borders, embedded scale codes, ruled write-in boxes • Clustering: similar items presented together in multi-row box, with shared stem • Write-ins: elaboration + open-ended 	<ul style="list-style-type: none"> • Sufficiency of application opportunities • Job relevance of ALC training/learning • Perceived learning transfer • Change in KSAs/behavior/performance/attitudes • Listing of selected activities/decisions/choices • Change in unit aspects (e.g., cohesion) • Positive feedback received from others • Contributions to unit operations and processes • Change in standing/stature within the unit • Benefits to individual and unit • Unit environment as a contributing factor

Instrument	Design Parameters	Measurement Scope
D. Unit Leaders Survey	<ul style="list-style-type: none"> Target Audience: Leaders with direct knowledge of named NCO (Plt Sgt, Plt Ldr, Co 1SG, Co Cdr) Mode: Hardcopy (self-explanatory, stand-alone) Max completion time: 30 min Rating scale: same as IC Layout: same as IC Clustering: same as IC Write-ins: elaboration + open-ended 	<ul style="list-style-type: none"> Opportunities for NCO to apply ALC learning Change in KSAs/behavior/performance/attitudes Change in unit aspects (e.g., cohesion) Contributions to unit operations and processes Change in standing/stature within the unit Benefits to individual and unit Listing of new equipment and TTP
E. Platoon Sergeants Survey	<ul style="list-style-type: none"> Target Audience: Plt Sgts to whom ALC graduates report (subset of unit leaders) Mode: Hardcopy (self-explanatory, stand-alone) Max completion time: 10 min Placement: special section of <i>Unit Leaders Survey</i> (ID) Rating scale: same as IC Layout: same as IC Clustering: same as IC Write-ins: elaboration + open-ended 	<ul style="list-style-type: none"> Change in self-development behavior/attitudes Listing of selected self-development activities Recognition of NCO for applying ALC learning
F. Unit Peers Survey	<ul style="list-style-type: none"> Target Audience: other squad leaders within NCO's company Mode: Hardcopy (self-explanatory, stand-alone) Max completion time: 30 min Placement: may be combined with <i>Unit Leaders Survey</i> (ID) Rating scale: same as IC Layout: same as IC Clustering: same as IC Write-ins: elaboration + open-ended 	<ul style="list-style-type: none"> Change in KSAs/behavior/performance/attitudes Change in unit aspects (e.g., cohesion) Contributions to unit operations and processes Change in standing/stature within the unit Benefits to unit
II. Focus Group Protocols		
A. ALC Students Focus Group (End-of-Course)	<ul style="list-style-type: none"> Target Audience: ALC graduates Mode: Group containing 5-6 participants (pure) Max session time: 120 min Investigator team: facilitator (SME) + note taker Max # questions: 25 (50% hit rate) Structure: organized by category, ordered by priority within category Activities: discussion, problem solving, what-if brainstorming Instructions: geared for diverse mix of facilitators 	<ul style="list-style-type: none"> Extent of ALC training/practice/opportunities Selected ALC learning outcomes Expected application environment Expected relevance of ALC training/learning ALC training issues ALC program improvement
B. Participants Focus Group (End State)	<ul style="list-style-type: none"> Target Audience: Participants Mode: Group containing 4-6 participants (pure) Max session time: 120 min Investigator team: facilitator (SME) + note taker Max # questions: 25 (50% hit rate) Structure: organized by category, ordered by priority within category Activities: discussion, problem solving, what-if brainstorming Instructions: geared for diverse mix of facilitators 	<ul style="list-style-type: none"> Follow-up of survey results Opportunities for selected KSA application Change in KSAs/behavior/performance/attitudes Listing of selected activities Examples of behaviors and ALC impact Contributions to unit operations and processes Application environment and enablers Benefits to individual and unit ALC program improvement

Instrument	Design Parameters	Measurement Scope
C. Unit Leaders Focus Group	<ul style="list-style-type: none"> • Target Audience: Leaders with direct knowledge of named NCO (Plt Sgt, Plt Ldr, Co 1SG, Co Cdr) • Mode: Group containing 3-5 leaders (pure) • Max session time: 90 min • Investigator team: facilitator (SME) + note taker • Max # questions: 20 (50% hit rate) • Structure: organized by category, ordered by priority within category • Activities: discussion, problem solving, what-if brainstorming • Instructions: geared for diverse mix of facilitators 	<ul style="list-style-type: none"> • Opportunities for selected KSA application • Change in KSAs/behavior/performance/attitudes • Listing of selected activities [PSG only] • Examples of behaviors and ALC impact • Contributions to unit operations and processes • Benefits to individual and unit • ALC program improvement
D. Unit Peers Focus Group	<ul style="list-style-type: none"> • Target Audience: other squad leaders within NCO's company • Mode: Group containing 4-6 peers (pure) • Max session time: 90 min • Investigator team: facilitator (SME) + note taker • Max # questions: 20 (60% hit rate) • Structure: organized by category, ordered by priority within category • Activities: discussion, problem solving, what-if brainstorming • Instructions: geared for diverse mix of facilitators • Placement: protocol may be subset of <i>Unit Leaders Focus Group</i> (IIC) 	<ul style="list-style-type: none"> • Change in KSAs/behavior/performance/attitudes • Examples of behaviors and ALC impact • Contributions to unit operations and processes • Application environment and enablers • Benefits to individual and unit • ALC program improvement
III. Miscellaneous Instruments		
A. Situational Judgment Tests (Alternate Versions)	<ul style="list-style-type: none"> • Target Audience: ALC students • Mode: Hardcopy (self-guided, stand-alone) • Max session time: 45 min • Max # questions: 35 (per session) • Question structure: tag line + mini-scenario + response options • Response type: multiple choice • Internal linkage: none (independent questions) • Investigator team: monitors (two per classroom) • Instructions: geared for target audience • Versions: 2 each, psychometrically equivalent • Test conditions: closed book, no collaboration, enforced time limit • Scoring: comparison with expert judgment 	<ul style="list-style-type: none"> • Critical NCO competencies (per FarXfer metrics) • Critical NCO competencies (per ALC POI)
B. Application Checklist (Recurring)	<ul style="list-style-type: none"> • Users: ALC graduates working in units • Mode: Hardcopy (self-guided, stand-alone) • Distribution: through unit action officer • Iteration: bi-weekly recording and submission • Prompting: reminders by unit action officer • Response type: check-the-box • Structure: organized by competency category, with columns for successive weeks • Layout: boxing with internal borders, shading of alternate columns, ruled write-in boxes • Instructions: geared for stand-alone use by junior NCOs 	<ul style="list-style-type: none"> • Frequency of using ALC-acquired KSAs • Description of special-interest activities • Examples of KSA application • Explanatory notes

Instrument	Design Parameters	Measurement Scope
C. Unit Records-Based Capture Form	<ul style="list-style-type: none"> • Users: data collectors (researchers) • Mode: Hardcopy • Source mix: personnel reports, UCMJ administrative records, performance test records, CTC take-home packages • Structure: organized by section (source), ordered by nature of data • Instructions: geared for diverse data collectors, tailored by section 	<ul style="list-style-type: none"> • Adverse personnel status incidents (e.g., AWOL, early reassignment) • UCMJ actions • Individual proficiency scores (APFT, weapons qualification, Common Tasks, Warrior Tasks) • Collective proficiency evaluations (Battle Drills, squad/ section/crew tasks)
D. Master Data Inventory	<ul style="list-style-type: none"> • Users: Data Manager • Mode: digital (spreadsheet) • Structure: open-ended, organized by instrument and source ID, ordered chronologically • Tagging: standard filename conventions + code for location in database • Index: by participant, cohort, unit, instrument • Instructions: geared for investigators • Monitoring: flags visible for pending/missing data and pending actions 	<ul style="list-style-type: none"> • Identification (instrument, date, unit, participants, location, researchers, etc.) • Location of raw data • Status of data entry, including filename(s) or spreadsheet name(s) • Status of QA review • Explanatory notes (e.g., procedural departures, drop-outs)

Underlying Principles:

- Government computers are unlikely to be available in participating platoons and squads, limiting the potential for online administration of questionnaires
- To avoid impeding focus group dynamics, mixed groups (e.g., leaders and peers together), should be avoided in favor of “pure” (unmixed) mode
- A focus group can address pointed questions in problem-solving mode, including “what if” challenges and collaborative brainstorming options
- Focus group discussion of one topic may take 5-15 min, depending on the complexity of the challenge
- While a focus group can include simple interview-like discussions, emphasizing group brainstorming or problem solving can produce more valuable insights.
- A focus group protocol would contain a pool of questions, from which a facilitator would choose a manageable subset for a given session
- A focus group facilitator should have military experience commensurate with the Soldiers, but a note taker could have less military experience
- The note taker would voice-record a focus group session to back-up his/her notes, but preparing transcripts from voice recordings is unnecessary
- Performance testing (SJTs) would provide evidence of actionable knowledge and offer objective measures for calculating ALC-induced learning (pre-versus-post deltas)
- To determine SJT topics, a prioritization process can guide the selection of critical NCO competencies from the FarXfer metrics and ALC POI
- Equivalent versions of SJTs can be constructed to avoid carry-over from start-of-course to end-of-course sessions
- Questionnaires and SJTs should be self-explanatory, requiring the session moderator to provide no directions other than administrative information
- Researchers will be allowed to copy specific data elements from unit records without duplicating actual records

Special Considerations:

- A leader/peer questionnaire should address no more than one target NCO-participant at a time
- If a leader or peer provides survey information for more than one NCO-participant, separate sessions should be scheduled
- The size of a focus group should not exceed 6 participants/peers (or 5 leaders) to ensure full participation by all
- For focus groups involving higher-ranking leaders, smaller groups (3-4 leaders) may be preferable
- The size of a focus group should not fall below 3 Soldiers, to ensure enough individuals for collaborative brainstorming
- Discussion of a specific NCO's weaknesses in group sessions should be avoided to maintain privacy protections
- Objective measurement of specific competencies (via SJTs) could influence subjective ratings of the same competencies (perhaps a positive effect)
- Creating time pressures during SJT execution may be desirable but would confound knowledge recall/application and stress
- Pairing the SJT instruments with the start-of-course and end-of-course questionnaires may be undesirable because it could compromise the student survey results
- Use of a recurring activity checklist by participants in units could influence their patterns of applying ALC skills and knowledge



APPENDIX I

EVALUATION OF INFANTRY ALC TRANSFER

DATA COLLECTOR'S GUIDE

for

ALL ACTIVITIES

♦♦ *A Roadmap for High-Quality Data* ♦♦

Point of Contact:

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ARI – Fort Benning Research Unit

March 2009

DATA COLLECTOR's GUIDE

About This Guide

This Data Collector's Guide is the primary job aid for ARI team members collecting data in the evaluation of Infantry ALC transfer. Each data collector should keep it handy when working at an evaluation site.

1. What's the purpose of the data collection?

- ◆ Build a comprehensive picture of the new 11B ALC POI's effectiveness
- ◆ Give FORSCOM units a voice to influence Infantry ALC training
- ◆ Generate objective information for TRADOC decisions on the ALC program
- ◆ Capture good ideas for improving the Infantry ALC POI

2. Who's on the data collection team?

- ◆ Evaluation Manager – Dr. Robert Pleban
- ◆ Data Manager – Dr. Marisa Miller
- ◆ Data Collectors/SMEs – [insert names]
- ◆ Data Collectors/general – [insert names]
- ◆ Database Technician – [insert name]
- ◆ Data Entry Clerk – [insert name]

3. Where are the data being collected?

- ◆ Fort Benning
- ◆ Fort Hood
- ◆ Fort Riley
- ◆ Fort Lewis
- ◆ Fort Drum
- ◆ Fort Stewart

4. What are the questions of interest?

- ◆ How much is ALC training relevant and useful to NCOs working in units?
- ◆ How does ALC impact competencies and performance of squad leaders?
- ◆ How does ALC impact unit processes, performance, and operations?
- ◆ What benefits does ALC bring to individual NCOs and their units?
- ◆ What unit factors and events influence utilization of ALC learning?

5. What are the sources of data?

- ◆ ALC students/graduates working as squad leaders – participants
- ◆ Leaders and peers who know participants – associates
- ◆ Training records, personnel reports, UCMJ records, etc. – unit records
- ◆ Data collectors, investigators, data manager – research team

6. What are the phases of data collection?

- ◆ Start-up – training and rehearsal of data collectors
- ◆ Course snapshots – of students at start and end of ALC
- ◆ Application/incubation – while graduates apply what they learned (5-6 mos desired)
- ◆ End state assessment – capture of data on ALC impact
- ◆ Close-out – orderly wrap-up following final data collection

7. How are the data collected? (See Attachment 1)

- ◆ Survey questionnaires
- ◆ Application checklist
- ◆ Focus group protocols
- ◆ Records-based capture form
- ◆ Situational judgment tests

8. What are the main duties of a data collector?

- ◆ Schedule course snapshot data collection sessions – see Checklist 1
- ◆ Schedule end state data collection sessions – see Checklist 2
- ◆ Administer survey sessions – see Checklist 3
- ◆ Administer situational judgment tests – see Checklist 4
- ◆ Conduct focus group sessions – see Checklist 5
- ◆ Collect data from unit records – see Checklist 6
- ◆ Submit data to the Data Manager – see Checklist 7
- ◆ Protect and store data locally – see Checklist 8

9. What are the eight commandments for data collectors?

- ◆ Respect the busy schedules of Soldiers and units – prepare well
- ◆ Safeguard the privacy of Soldiers and units at all costs – protect the data
- ◆ Honor the *voluntary* participation of Soldiers – coerce no one
- ◆ Follow the standard procedures – produce highest quality data
- ◆ Don't change procedures – unless approved by the Evaluation Manager
- ◆ Seek advice – talk with the Data Manager when problems or issues arise
- ◆ Document what happens – especially departures from the standard procedures
- ◆ Complete notes and annotations quickly – memory will fail too soon

10. What about privacy of Soldiers and units?

- ◆ Protecting the privacy of Soldiers and units is an absolute requirement
- ◆ Every Soldier will use an ID# in lieu of personal name or SSN
- ◆ ID# = last letter of last name + 6-digit birthday of a parent (YYMMDD)
- ◆ Every data collector must safeguard hardcopy and digital data in his/her custody
- ◆ Specific safeguard procedures are spelled out in this guide's checklists

11. What is the dress code for data collectors?

- ◆ Business casual attire (tie or jacket optional) will be worn at data collection sites
- ◆ A picture identification badge will be worn in plain sight at data collection sites

12. How does travel work for data collectors?

- ◆ All travel must be approved by the Evaluation Manager or Data Manager
- ◆ Site visits will generally last 1-2 weeks, with weekend duty as required
- ◆ A designated administrative assistant will handle all travel arrangements
- ◆ Any changes to travel plans must be made thru the administrative assistant
- ◆ Travel-related receipts must be submitted to the administrative assistant

13. Where to get additional information?

- ◆ *Data Collection and Management Plan*
- ◆ *FarXfer Data Collection Instruments – Outline Design*

14. ARI's research project ...

- ◆ Helps USAIS and NCO Academy keep pace with Army Transformation
- ◆ Promotes utilization of ALC learning among operational units
- ◆ Contributes to the Army's NCOES modernization efforts
- ◆ Is conducted by ARI's Fort Benning Research Unit

15. Points of Contact

- ◆ Dr. Robert Pleban, Evaluation Manager, Robert.Pleban@us.army.mil, (706) 545-2207
- ◆ Dr. Marisa Miller, Data Manager, Marisa.Miller@us.army.mil, (706) 545-XXXX
- ◆ XXXX, Administrative Asst, xxxxxx

Attachment 1

DATA COLLECTION ACTIVITIES

Note-1: Each activity has a corresponding data collection instrument that must be used.

Note-2: During the application/incubation period, participants will complete Application Checklists every pay period. Data collectors will not be involved in this activity.

Activity	Purpose	Group Size*	Duration
<i>Course Snapshots</i>			
Student Survey, Start-of-Course	Measure NCO status at start of ALC	100-200	1 hr
Sit Judgment Test, Start-of-Course	Measure NCO proficiency at start of ALC	100-200	1 hr
Student Survey, End-of-Course	Measure NCO status at end of ALC	100-200	½ hr
Sit Judgment Test, End-of-Course	Measure NCO proficiency at end of ALC	100-200	1 hr
Student Focus Gp, End-of-Course	Capture reactions and expectations, clarify trends	5-6	2 hr
<i>End State Assessments</i>			
Participant Survey	Measure ALC impact at 5-6 months, obtain opinions	10-40	1 hr
Participant Focus Group	Expand understanding, capture opinions and ideas	4-6	2 hr
Unit Leader Survey	Measure ALC impact, add perspective	6-12	½ hr
Unit Leader Focus Group	Expand understanding, capture opinions and ideas	3-5	1½ hr
Unit Peer Survey	Measure ALC impact, add perspective	6-12	½ hr
Unit Peer Focus Group	Expand understanding, capture opinions and ideas	4-6	1½ hr
Records-Based Capture Form	Capture information from unit records	N/A	1-3 hr

* Group sizes are approximate and may be varied by applying professional judgment.

Checklist 1

SCHEDULING COURSE SNAPSHOT SESSIONS

	Step	When
Start of Course		
<input type="checkbox"/>	1. Obtain course schedule and number of students	30 days prior to start
<input type="checkbox"/>	2. Schedule start-of-course survey (1 hr), large group* on Day 1-2	30 days prior to start
<input type="checkbox"/>	3. Schedule start-of-course SJT (1 hr), large group* on Day 1-2	30 days prior to start
<input type="checkbox"/>	4. Obtain scheduling input and concurrence from Data Manager	28 days prior to start
<input type="checkbox"/>	5. Coordinate schedule with course POC	25 days prior to start
<input type="checkbox"/>	6. Submit final schedule to Data Manager	18 days prior to start
<input type="checkbox"/>	7. Coordinate data collection duties with other data collector(s)	14 days prior to start
<input type="checkbox"/>	8. Verify data collection events on course master schedule	10 days prior to start
<input type="checkbox"/>	9. Verify classroom locations for data collection events	5 days prior to start
End of Course		
<input type="checkbox"/>	10. Schedule end-of-course survey (1/2 hr), large group* on Day 26	5 days after course start
<input type="checkbox"/>	11. Schedule end-of-course SJT (1 hr), large group* on Day 26	5 days after course start
<input type="checkbox"/>	12. Obtain current <i>Master Roster</i> from Data Manager	5 days after course start
<input type="checkbox"/>	13. Select 25-30 rostered participants in 5 subgroups of 5-6 each	5 days after course start
<input type="checkbox"/>	14. Schedule focus gps, 1 session per by-name subgroup (2 hr ea)	Target Days 26-27
<input type="checkbox"/>	15. Obtain scheduling input and concurrence from Data Manager	5 days after course start
<input type="checkbox"/>	16. Submit schedule (including by-name list for focus groups) to course POC for approval	6 days after course start
<input type="checkbox"/>	17. Finalize schedule and deliver to Data Manager	10 days after course start
<input type="checkbox"/>	18. Coordinate data collection duties with other data collector(s)	12 days after course start
<input type="checkbox"/>	19. Verify data collection events on course master schedule	15 days after course start
<input type="checkbox"/>	20. Verify classroom location for each data collection event	21 days after course start

* Schedule all students as one large group for surveys and SJTs.

⇒ See *notional schedule* on next page for example.

NOTIONAL COURSE SNAPSHOT SCHEDULE

Note-1: Event durations and group sizes come from Attachment 1.

Note-2: Separate time slots for back-to-back survey and SJT sessions (rather than one longer time slot) are recommended to facilitate implementing time limits for SJT sessions.

Note-3: The sample of students for focus groups should be selected from the *Master Roster* to equally represent the different installations (for schoolhouse cohorts) or parent units (for MTT cohorts).

Note-4: The survey session(s) should precede the first focus group session.

Note-5: Two data collectors are required for every survey, SJT, and focus group session.

Date	Time	Event	Comments
<i>Start-of-Course Events</i>			
12 Jan 10	0900-1000	Student Survey (start of course)	Entire class at once
	1000-1100	Student SJT (start of course)	Entire class at once
<i>End-of-Course Events</i>			
4 Feb 10	0800-0830	Student Survey (end of course)	Entire class at once
	0830-0930	Student SJT (end of course)	Entire class at once
	0930-1130	Student Focus Group (Group #1)	Subgroup ($n = 5-6$)
	1300-1500	Student Focus Group (Group #2)	Subgroup ($n = 5-6$)
	1500-1700	Student Focus Group (Group #3)	Subgroup ($n = 5-6$)
5 Feb 10	0800-1000	Student Focus Group (Group #4)	Subgroup ($n = 5-6$)
	1000-1200	Student Focus Group (Group #5)	Subgroup ($n = 5-6$)

Checklist 2

SCHEDULING END STATE SESSIONS – MTT COHORT

Note-1: The Data Manager will schedule end state sessions for schoolhouse cohorts.

Note-2: ARI assumes that units will require at least 90 days advance notice for scheduling.

Note-3: Event durations and group sizes come from Attachment 1.

Note-4: Two data collectors are required for every focus group session.

	Step	When*
<input type="checkbox"/>	1. Obtain current <i>Master Roster</i> from Data Manager	100 days prior to D-day
<input type="checkbox"/>	2. Compile list of Soldiers in cohort, by type (80 participants, 80 leaders, 80 peers – approx)	100 days prior to D-day
<input type="checkbox"/>	3. Schedule participant surveys (1 hr), in two by-name groups of ~40	100 days prior to D-day
<input type="checkbox"/>	4. Schedule 60** participants in 2-hr focus groups (4-6 each, by name)	100 days prior to D-day
<input type="checkbox"/>	5. Schedule leader surveys + focus groups (2 hr combined), in 12 by-name groups of 6-7 (schedule all leaders)***	100 days prior to D-day
<input type="checkbox"/>	6. Schedule peer surveys + focus groups (2 hr combined), in 12 by-name groups of 6-7 (schedule all peers)***	100 days prior to D-day
<input type="checkbox"/>	7. Crosswalk group lists against cohort list to verify all participants, leaders, and peers are scheduled for surveys	100 days prior to D-day
<input type="checkbox"/>	8. Schedule records-based data gathering sessions, by HQ element (all battalion and company HQs of cohort participants)	100 days prior to D-day
<input type="checkbox"/>	9. Obtain scheduling input and concurrence from Data Manager	98 days prior to D-day
<input type="checkbox"/>	10. Submit by-name schedule to unit POC for coordination & approval	95 days prior to D-day
<input type="checkbox"/>	11. Finalize schedule and deliver to Data Manager	70 days prior to D-day
<input type="checkbox"/>	12. Verify data collection events on unit training schedule	50 days prior to D-day
<input type="checkbox"/>	13. Assign by-session duties to data collection teams/members	30 days prior to D-day
<input type="checkbox"/>	14. Verify facilities, equipment, and supplies for each event	15 days prior to D-day

* D-day = data start (first day of actual data collection) for a given cohort.

** Select 60 of 80 participants randomly, trying to represent the different parent units evenly.

*** All leaders and peers will complete surveys, but some in each group will be released (as necessary) at the start of a focus group to meet desired group size (see Attachment 1).

⇒ See *notional schedule on next page for example.*

NOTIONAL END STATE SCHEDULE FOR MTT COHORT

Note-1: See Attachment 1 for desired group sizes.

Note-2: A survey should precede a focus group for a given group.

Note-3: All survey sessions and focus groups require both members of a data collection team, except when a survey session involves fewer than 25 Soldiers.

Date	Time	Event	Comments
26 Jul 10	0900-1000	Participant Survey (½ of sample)	DC Team #1
	1000-1200	Participant Focus Group (Groups #P1 & #P2)	DC Teams #1 and #2
	1300-1400	Participant Survey (½ of sample)	DC Team #1
	1300-1500	Participant Focus Group (Group #P3)	DC Team #2
	1500-1700	Participant Focus Group (Groups #P4 & #P5)	DC Teams #1 and #2
27 Jul 10	0800-1000	Participant Focus Group (Groups #P6 & #P7)	DC Teams #1 and #2
	1000-1200	Participant Focus Group (Group #P8)	DC Team #1
		Leader Survey + Focus Group (Group #L1)	DC Team #2
	1300-1500	Participant Focus Group (Groups #P9 & #P10)	DC Teams #1 and #2
	1500-1700	Participant Focus Group (Groups #P11 & #P12)	DC Teams #1 and #2
28 Jul 10	0800-1000	Leader Survey + Focus Group (Groups #L2 & #L3)	DC Teams #1 and #2
	1000-1200	Leader Survey + Focus Group (Groups #L4 & #L5)	DC Teams #1 and #2
	1300-1500	Leader Survey + Focus Group (Groups #L6 & #L7)	DC Teams #1 and #2
	1500-1700	Leader Survey + Focus Group (Groups #L8 & #L9)	DC Teams #1 and #2
29 Jul 10	0800-1000	Leader Survey + Focus Group (Groups #L10 & #L11)	DC Teams #1 and #2
	1000-1200	Leader Survey + Focus Group (Group #L12)	DC Team #1
		Peer Survey + Focus Group (Group #Pr1)	DC Team #2
	1300-1500	Peer Survey + Focus Group (Groups #Pr2 & #Pr3)	DC Teams #1 and #2
	1500-1700	Peer Survey + Focus Group (Groups #Pr4 & #Pr5)	DC Teams #1 and #2
30 Jul 10	0800-1000	Peer Survey + Focus Group (Groups #Pr6 & #Pr7)	DC Teams #1 and #2
	1000-1200	Peer Survey + Focus Group (Groups #Pr8 & #Pr9)	DC Teams #1 and #2
	1300-1500	Peer Survey + Focus Group (Groups #Pr10 & #Pr11)	DC Teams #1 and #2
	1500-1700	Peer Survey + Focus Group (Group #Pr12)	DC Team #1
		Unit Records Data Collection	DC Team #2

Checklist 3

ADMINISTERING A SURVEY SESSION

Note-1: Two data collectors should handle large-group sessions (more than 50 Soldiers).

Note-2: All survey sessions will involve by-name groups, except the course snapshot surveys.

	Step	When
Before the Session		
<input type="checkbox"/>	1. Assemble information about group from approved schedule	30 days prior to session
<input type="checkbox"/>	2. Determine type and number of Soldiers in group	30 days prior to session
<input type="checkbox"/>	3. Obtain hardcopies (including 3 extras) of specific questionnaire from Data Manager's office	30 days prior to session
<input type="checkbox"/>	4. Double check every hardcopy for errors (missing pages, etc.)	21 days prior to session
<input type="checkbox"/>	5. Ready by-name list of Soldiers scheduled in survey group	7 days prior to session
<input type="checkbox"/>	6. Confirm location and Soldiers (by name) for survey session	7 days prior to session
<input type="checkbox"/>	7. Obtain pencils or pens to take to survey session	5 days prior to session
<input type="checkbox"/>	8. On every hardcopy, fill in fields reserved for research team's use	1 day prior to session
<input type="checkbox"/>	9. Review questionnaire so you can answer Soldiers' questions	1 day prior to session
During the Session		
<input type="checkbox"/>	10. Verify that Soldiers present match list by name	Start of session
<input type="checkbox"/>	11. Introduce the survey and its role in ARI's evaluation	Start of session
<input type="checkbox"/>	12. Hand out hardcopy questionnaires, 1 per Soldier	Start of session
<input type="checkbox"/>	13. Review the questionnaire's instructions	Start of session
<input type="checkbox"/>	14. Explain privacy protections, especially the ID#	Start of session
<input type="checkbox"/>	15. Instruct group to stay for follow-on focus group (if appropriate)	Start of session
<input type="checkbox"/>	16. Remain with Soldiers as they work individually	As Soldiers work
<input type="checkbox"/>	17. Answer questions raised by Soldiers	Throughout
<input type="checkbox"/>	18. Collect completed questionnaires as Soldiers finish	End of session
<input type="checkbox"/>	19. Verify completeness of admin info on every questionnaire	End of session
<input type="checkbox"/>	20. Remind Soldiers to stay for follow-on focus group (if appropriate)	End of session
<input type="checkbox"/>	21. Release individuals after verifying their admin info	End of session

Checklist 4

ADMINISTERING A SITUATIONAL JUDGMENT TEST

Note-1: Two data collectors should work together due to large group sizes.

Note-2: All students will complete both SJT sessions (start-of-course and end-of-course).

	Step	When
Before the Session		
<input type="checkbox"/>	1. Assemble information about group from class roster	30 days prior to session
<input type="checkbox"/>	2. Determine number of students in group	30 days prior to session
<input type="checkbox"/>	3. Obtain hardcopies (including 5 extras) of correct SJT form (start-of-course <u>or</u> end-of-course) from Data Manager's office	30 days prior to session
<input type="checkbox"/>	4. Double check every hardcopy for errors (missing pages, etc.)	21 days prior to session
<input type="checkbox"/>	5. Confirm location (and equipment, if needed) for session	7 days prior to session
<input type="checkbox"/>	6. Obtain pencils or pens to take to SJT session	5 days prior to session
<input type="checkbox"/>	7. On every hardcopy, fill in fields reserved for research team's use	1 day prior to session
<input type="checkbox"/>	8. Review SJT form so you can answer students' questions	1 day prior to session
During the Session		
<input type="checkbox"/>	9. Perform a head count to determine completeness of group	Start of session
<input type="checkbox"/>	10. Introduce the SJT and its role in ARI's evaluation	Start of session
<input type="checkbox"/>	11. Hand out hardcopy SJT forms, 1 per student	Start of session
<input type="checkbox"/>	12. Review SJT form's instructions, including the time limit	Start of session
<input type="checkbox"/>	13. Explain privacy protections, especially the ID#	Start of session
<input type="checkbox"/>	14. Instruct subgroup to stay for follow-on focus group (if appropriate)	Start of session
<input type="checkbox"/>	15. Track time, monitor students to ensure they work individually	As students work
<input type="checkbox"/>	16. Answer questions raised by students	Throughout
<input type="checkbox"/>	17. Collect completed SJT forms as students finish	End of session
<input type="checkbox"/>	18. Verify completeness of admin information on every form	End of session
<input type="checkbox"/>	19. Announce end of session when time limit is reached	End of session
<input type="checkbox"/>	20. Remind subgroup to stay for follow-on focus group (if appropriate)	End of session
<input type="checkbox"/>	21. Release individuals after verifying their admin information	End of session

Checklist 5

CONDUCTING A FOCUS GROUP SESSION

Note-1: Two data collectors (facilitator + note taker) will conduct a focus group.

Note-2: The note taker will enter notes directly into a laptop and digitally record the dialogue.

Note-3: The typical focus group will immediately follow a survey session.

Note-4: A data collection team should conduct no more than 4 focus groups in a day.

	Step	When
Before the Session		
<input type="checkbox"/>	1. Identify type of focus group (e.g., peers) from approved schedule	9 days prior to session
<input type="checkbox"/>	2. Print a hardcopy of the specific protocol (e.g., leader focus group)	9 days prior to session
<input type="checkbox"/>	3. Follow advance preparation instructions on protocol	As directed in protocol
<input type="checkbox"/>	4. Ready by-name list of Soldiers scheduled for the session	7 days prior to session
<input type="checkbox"/>	5. Confirm location and Soldiers (by name) for the session	7 days prior to session
<input type="checkbox"/>	6. Coordinate specific duties with other data collector	5 days prior to session
<input type="checkbox"/>	7. Ready voice recorder (including extra batteries) and laptop	1 day prior to session
<input type="checkbox"/>	8. Annotate the protocol, prioritize questions, do a mental walk-thru	1 day prior to session
During the Session		
<input type="checkbox"/>	9. Verify that Soldiers on hand match list by name	Start of session
<input type="checkbox"/>	10. Release extra Soldiers, if necessary, to reach desired group size	Start of session
<input type="checkbox"/>	11. Introduce the session and its role in ARI's evaluation	Start of session
<input type="checkbox"/>	12. Explain privacy protections and voice recording	Start of session
<input type="checkbox"/>	13. Start voice recorder & state installation/group/facilitator/date/time	Start of dialogue
<input type="checkbox"/>	14. Follow protocol's instructions for facilitating and taking notes	Throughout dialogue
<input type="checkbox"/>	15. Monitor clock to ensure that session ends on time	Throughout dialogue
<input type="checkbox"/>	16. Turn off voice recorder	End of session
<input type="checkbox"/>	17. Release Soldiers after session wrap-up	End of session
After the Session		
<input type="checkbox"/>	18. Transfer voice file to laptop or flash drive, with standard file name	After release of Soldiers
<input type="checkbox"/>	19. Document procedural exceptions for incorporation into notes	After release of Soldiers
<input type="checkbox"/>	20. Flesh out digital notes in Microsoft Word file (note taker)	NLT end of same day
<input type="checkbox"/>	21. Review notes (facilitator) and finalize them with aid of voice file	Within 3 days

Checklist 6

COLLECTING DATA FROM UNIT RECORDS

Note-1: One data collector can work alone when gathering data from unit records.

Note-2: Data collectors will treat all unit records-based data as sensitive and FOUO.

Note-3: Some units may choose to provide data elements (extracts) rather than records.

Note-4: Duration of a session may vary considerably, depending on specific circumstances.

	Step	When
Before the Session		
<input type="checkbox"/>	1. Identify records targeted (Bn or Co) from approved schedule	15 days prior to session
<input type="checkbox"/>	2. Determine HQ, POC, and location for the session	15 days prior to session
<input type="checkbox"/>	3. Coordinate with POC regarding data needed and ground rules	15 days prior to session
<input type="checkbox"/>	4. Ready list of participants and squads falling under the HQ	7 days prior to session
<input type="checkbox"/>	5. Send to POC the list of participants/squads + capture form	7 days prior to session
<input type="checkbox"/>	6. Confirm appointment with POC	2 days prior to session
<input type="checkbox"/>	7. Print the <i>Records-Based Capture Form</i>	1 day prior to session
<input type="checkbox"/>	8. Become thoroughly familiar with the capture form's data elements	1 day prior to session
During the Session		
<input type="checkbox"/>	9. Introduce ARI's evaluation and need for records-based data	Start of session
<input type="checkbox"/>	10. Explain privacy protections and handling of data	Start of session
<input type="checkbox"/>	11. Reach agreement with POC on specific procedures	Start of session
<input type="checkbox"/>	12. Verify names and positions of participants on the list	Start of session
<input type="checkbox"/>	13. Record data elements on capture form; note missing data & why	As session progresses
<input type="checkbox"/>	14. Review each page of capture form for completeness	End of session
<input type="checkbox"/>	15. Provide POC a list of data elements expected later, if any	End of session
<input type="checkbox"/>	16. Answer POC's final questions and express ARI's appreciation	End of session
After the Session		
<input type="checkbox"/>	17. Add notes to capture form re: irregularities, causes of missing data, and pending data	NLT end of same day
<input type="checkbox"/>	18. Place capture form in envelope or enclosed folder marked FOUO	NLT end of same day
<input type="checkbox"/>	19. Document procedural exceptions for submission to Data Manager	Within 2 days
<input type="checkbox"/>	20. Obtain pending data from POC and add to capture form	Within 5 days
<input type="checkbox"/>	21. Label capture form as "final/complete" or "closed/incomplete"	Within 7 days

Checklist 7

SUBMITTING MATERIALS TO DATA MANAGER

Note-1: As a general rule, data from one site visit will be packaged together and hand-carried to the Data Manager.

Note-2: If hardcopy originals must be shipped to the Data Manager, backups will first be scanned into digital files or photocopied.

	Step	When*
<input type="checkbox"/>	1. Assemble all data collected during the site visit, which may include: <ul style="list-style-type: none"> • Questionnaires completed by Soldiers • SJT forms completed by students • Final notes from focus groups • Digital voice files from focus groups (if requested) • Records-based capture forms completed by data collectors • Documentation of departures from standard procedures • Lessons learned by data collection team(s) 	Within 3 days after C-day
<input type="checkbox"/>	2. Verify administrative information and completeness of data package	Within 5 days after C-day
<input type="checkbox"/>	3. Complete annotations on <i>Records-Based Capture Forms</i>	Within 5 days after C-day
<input type="checkbox"/>	4. Confirm that names of digital files meet formatting standard	Within 7 days after C-day
<input type="checkbox"/>	5. Compile documentation of departures from standard procedures	Within 7 days after C-day
<input type="checkbox"/>	6. Compile data collectors' lessons learned into Microsoft Word file	Within 9 days after C-day
<input type="checkbox"/>	7. Email final digital files (minus voice files) to Data Manager	Within 9 days after C-day
<input type="checkbox"/>	8. Prepare inventory of hardcopy and digital materials in package	Within 9 days after C-day
<input type="checkbox"/>	9. Copy final digital files + inventory onto CD, and label CD (e.g., Ft Hood Data, 5-13 Jan 2010)	Within 10 days after C-day
<input type="checkbox"/>	10. Print hardcopy of data package's inventory	Within 10 days after C-day
<input type="checkbox"/>	11. Package inventory + hardcopy materials + CD and hand carry to Data Manager	Within 10 days after C-day
<i>If the Data Manager directs you to ship a data package:</i>		
<input type="checkbox"/>	12. Before packaging, scan 1 backup copy of each completed questionnaire + SJT form + records-based capture form	Prior to shipping
<input type="checkbox"/>	13. Coordinate shipping arrangements with Data Manager	2 days before shipping
<input type="checkbox"/>	14. Notify Data Manager when data package has been shipped	W/in 4 hours after shipping
<input type="checkbox"/>	15. Confirm that Data Manager received data package	W/in 2 days after shipping

* C-day = completion of site visit (last day).

Checklist 8

PROTECTING AND STORING DATA LOCALLY

Note-1: While holding data temporarily or long-term, each data collection team must protect it from unauthorized access and store it properly. This includes hardcopy and digital data.

Note-2: Locally held/stored data will be organized by site visit, one data package per visit.

Note-3: No personnel outside the research team will have access to any data.

Note-4: No hardcopy or digital data will be destroyed unless the Data Manager directs the data collection team to do so.

	Step	When*
<input type="checkbox"/>	1. Create the structure for storing and tracking data: <ul style="list-style-type: none"> • File cabinet or boxes for hardcopy materials (in locked area) • Digital folders for organizing related files (password protected) • External device for storing digital files (access protected) • Digital inventory for tracking all data stored locally 	Start-up phase
<input type="checkbox"/>	2. Place records-based capture forms in envelope or enclosed folder prominently marked "FOUO"	Day of collection
<input type="checkbox"/>	3. Place all hardcopy materials from a site visit together, in folders identifying type and source (e.g., peer survey Ft Hood #1)	Within 7 days after C-day
<input type="checkbox"/>	4. Make sure every digital file name is complete and unique	Within 7 days after C-day
<input type="checkbox"/>	5. Place all digital files in site visit-specific folder, using subfolders: <ul style="list-style-type: none"> • Final notes from focus groups (discard interim files) • Digital voice files from focus groups • Data collector notes (procedural exceptions, lessons learned, etc.) 	Within 7 days after C-day
<input type="checkbox"/>	6. Discard handwritten notes, if any, from focus groups	After digital files finalized
<input type="checkbox"/>	7. Externally backup site visit data package when it is completed	Within 8 days after C-day
<input type="checkbox"/>	8. Maintain administrative records, including shipment & delivery dates	Within 14 days after C-day
<input type="checkbox"/>	9. Continuously control access to hardcopy data and external media (locked container or area) and computer files (password protected)	24 x 7
<input type="checkbox"/>	10. Refer all Soldier or unit requests for data to Evaluation Manager	As requests arise
<input type="checkbox"/>	11. When directed by Data Manager, destroy (shred) hardcopy data	When directed
<input type="checkbox"/>	12. Annotate inventory re: destroyed data (date and authority)	Upon destruction of data
<input type="checkbox"/>	13. At end of project, deliver all retained materials to Data Manager	Close-out phase

* C-day = completion of site visit (last day).